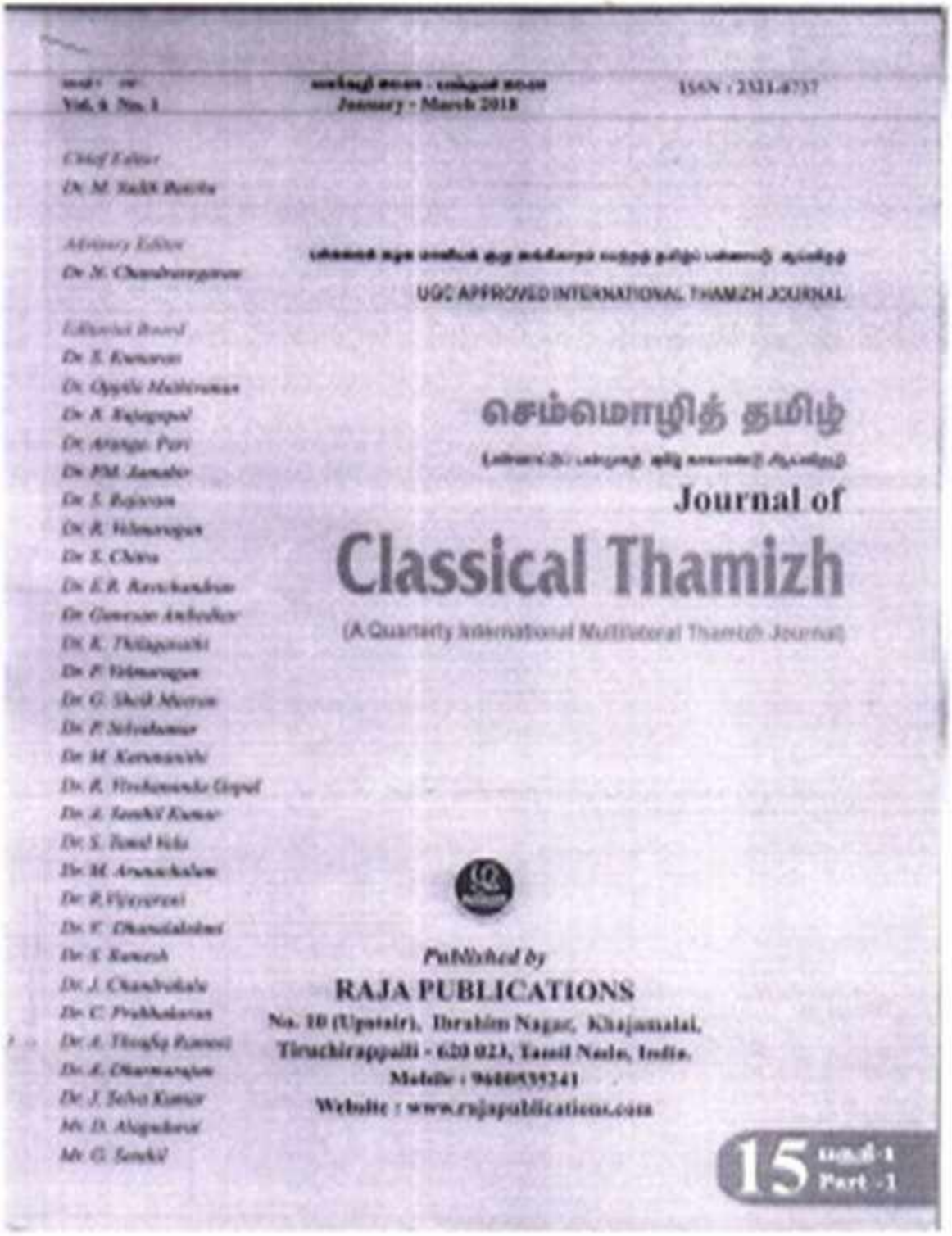
3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Tamil



Vol. 8 No. 1 — January - March 2018 — ISSN : 2321-8737

UGC APPROVED INTERNATIONAL THAMIZH JOURNAL

செம்மொழித் தமிழ்

Journal of

Classical Thamizh

(A Quarterly International Multilateral Thamizh Journal)

Published by

RAJA PUBLICATIONS

No. 10 (Upstair), Ibrahim Nagar, Khajamalai,

Tiruchirappalli - 620 023, Tamil Nadu, India.

Mobile : 9600535241

Website : www.rajapublications.com

15 Part - 1

Chief Editor

Dr. M. Rajh Ramiz

Advisory Editor

Dr. N. Chandrasegaran

Editorial Board

Dr. S. Kumaran

Dr. Ogyoki Maitreyan

Dr. R. Rajagopal

Dr. Aranga. Pari

Dr. PM. Jamaber

Dr. S. Rajavan

Dr. R. Velmurugan

Dr. S. Chitra

Dr. E.R. Ravichandran

Dr. Ganesan Ambedkar

Dr. K. Thilagavathi

Dr. P. Velmurugan

Dr. G. Sheik Meeran

Dr. P. Selvakumar

Dr. M. Karunanithi

Dr. R. Venkatesha Gopal

Dr. A. Senthil Kumar

Dr. S. Tamil Vidi

Dr. M. Arunachalam

Dr. R. Vijayarani

Dr. V. Dhanalakshmi

Dr. S. Ramesh

Dr. J. Chandrakala

Dr. C. Prabhakaran

Dr. A. Thagaj Kumar

Dr. K. Dharmarajan

Dr. J. Selva Kumar

Mr. D. Alagudurai

Mr. G. Senthil

3.3.2. Number of research papers per teacher in the Journals notified on UGC

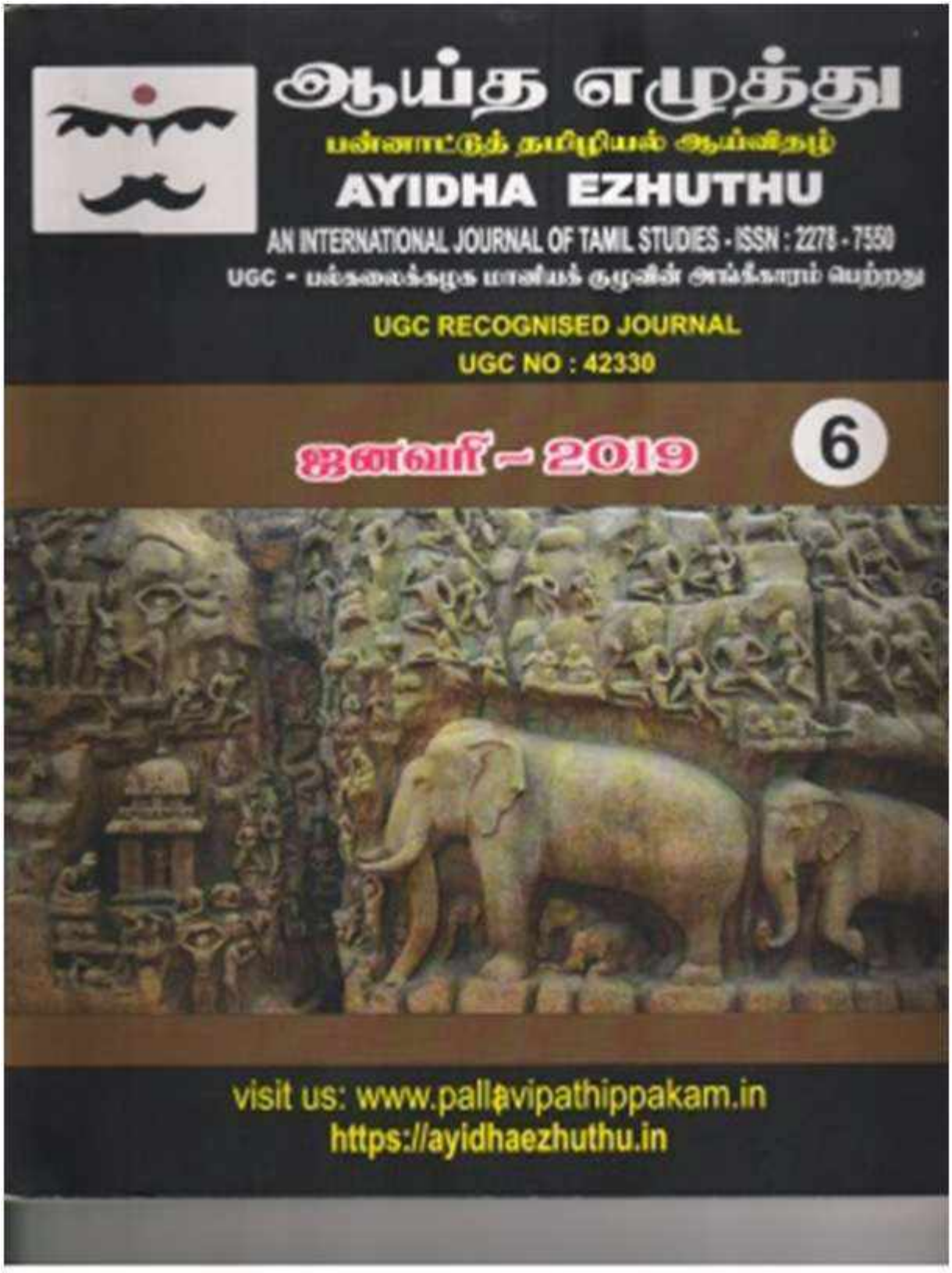
3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

பொருளடக்கம்

1. தாவரப் வடு நுண்ணறி உவகைக்
*முனைவர் வதிர - 1

2. தமிழ் இலக்கியங்களில் அறிவியல் அறிவுகள் சில பார்வைகள்
*சி.ஜெய - 4

3. சங்க இலக்கியத்தில் நுகர்ச்சிப் பொருட்
*முனைவர் ப.சிவகுமார் - 7

4. தமிழ் இலக்கியங்களில் அளவியல்கள்
*முனைவர் ந.வேலாயுதம் - 11

5. சங்க இலக்கியங்களில் பெருகிய கொடைப் பண்புகள்
*ஆ.அரசு பரிதா. கலா - 15

6. பண்பாட்டில் அறிவியல்
*ஆ.அறிவுச்செல்வ - 18

7. சுற்றுச்சூழலியல் முன்னோடி
*முனைவர் த.சிவகுமார் - 21

8. மொழிபெயர்ப்பும் பிற முயற்சி நிலைகளும் சில சிந்தனைகளும்
*க.அன்பரசு - 24

9. வழக்கில் தோன்றி மறைந்த அறிவியல் சொற்கள்
*முனைவர் ஆ.இளங்கோவன் - 28

10. அலைச்சொல்லில் அறிவியல்
*தா.சுமலைமாலிகா - 30

11. பல சான்ற உலகிற்கு அறிவுறுத்தும் அறிவுரைகள்
*முனைவர் க.சந்திரகலா - 33

12. தமிழ்மரபில் பல்லிப் பலன்கள்
*முனைவர் இரா.கலிவேலன் - 35

13. பண்டைத் தொல்பொருள்களும் அறிவியலும்
*இரா.கோகிலாம்பாள் - 38

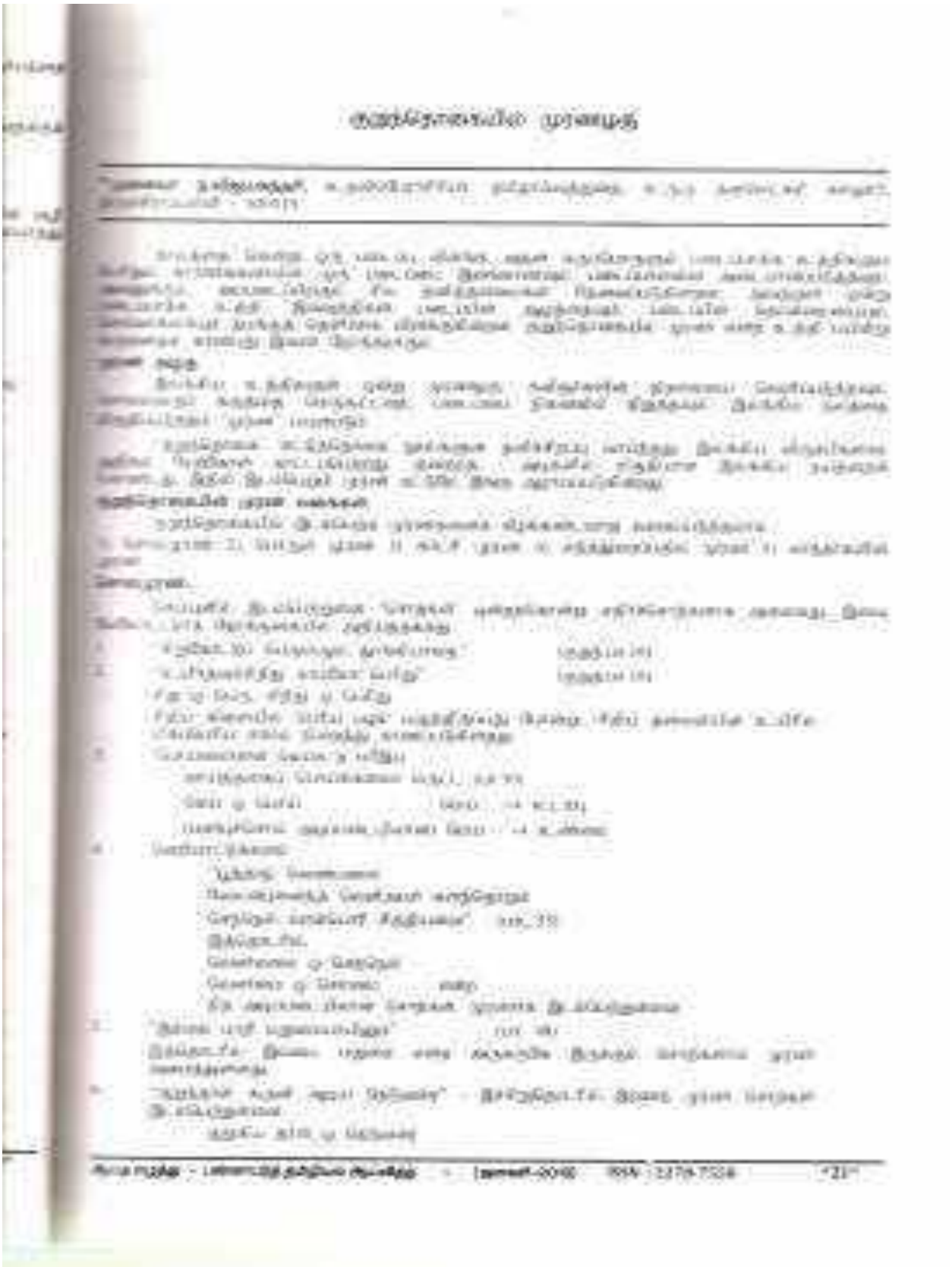
14. தீச்சொற்களும் விழுமியங்களும்
*முனைவர் அ.பிரியா - 40

15. பாரதி வசன கவிதைப் புதுமைகள்
*முனைவர் ப.அமுத செல்வன் - 44

16. பண்பாட்டில் சங்க
*முனைவர் ச.விஜயபாரதி - 47

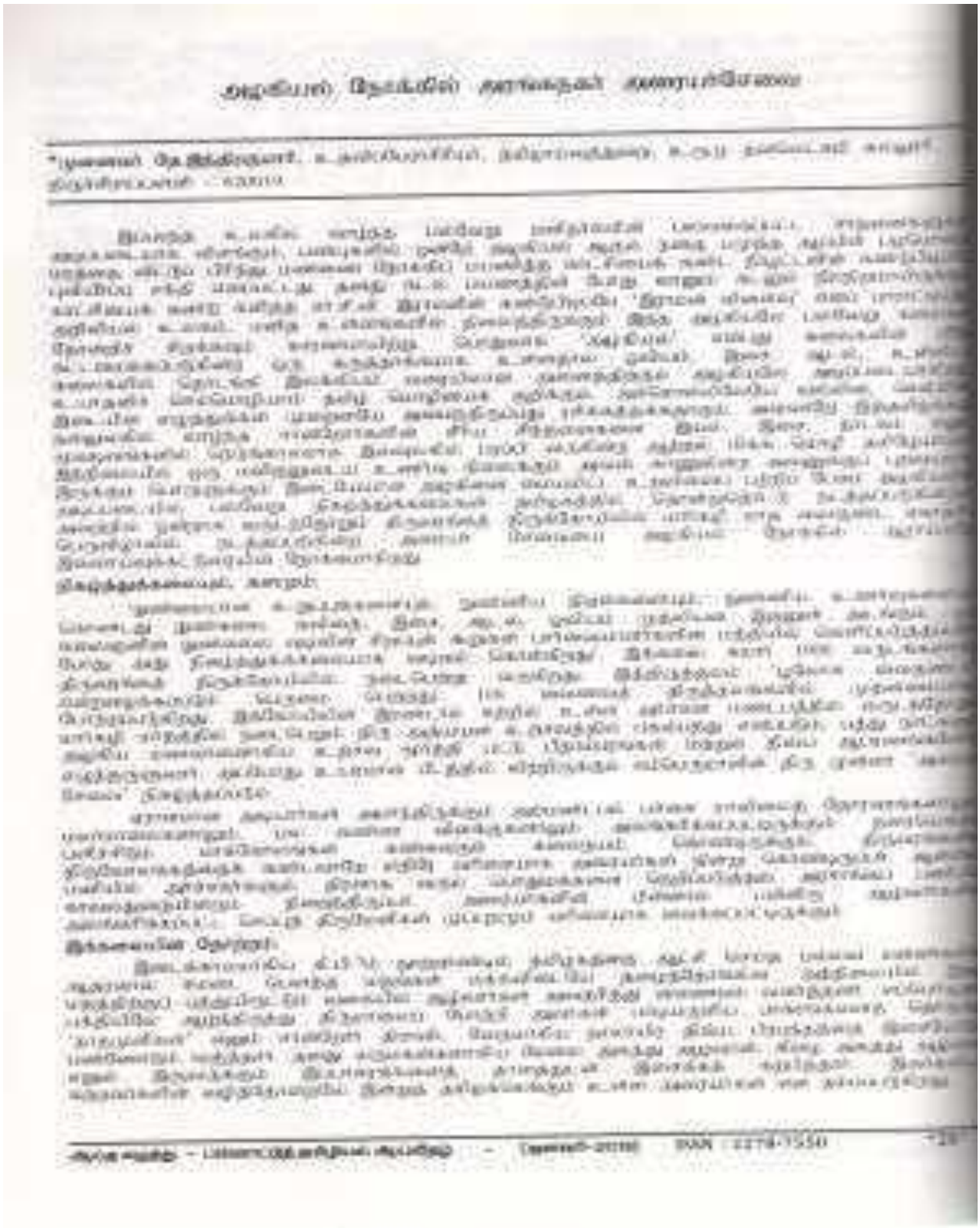
17. தொல்காப்பியத்தில் சுற்றுப் சுற்றுச்சூழல்
*முனைவர் இரா.பன்னீர்செல்வம் ஐ - 51

3.3.2. Number of research papers per teacher in the Journals notified on UGC

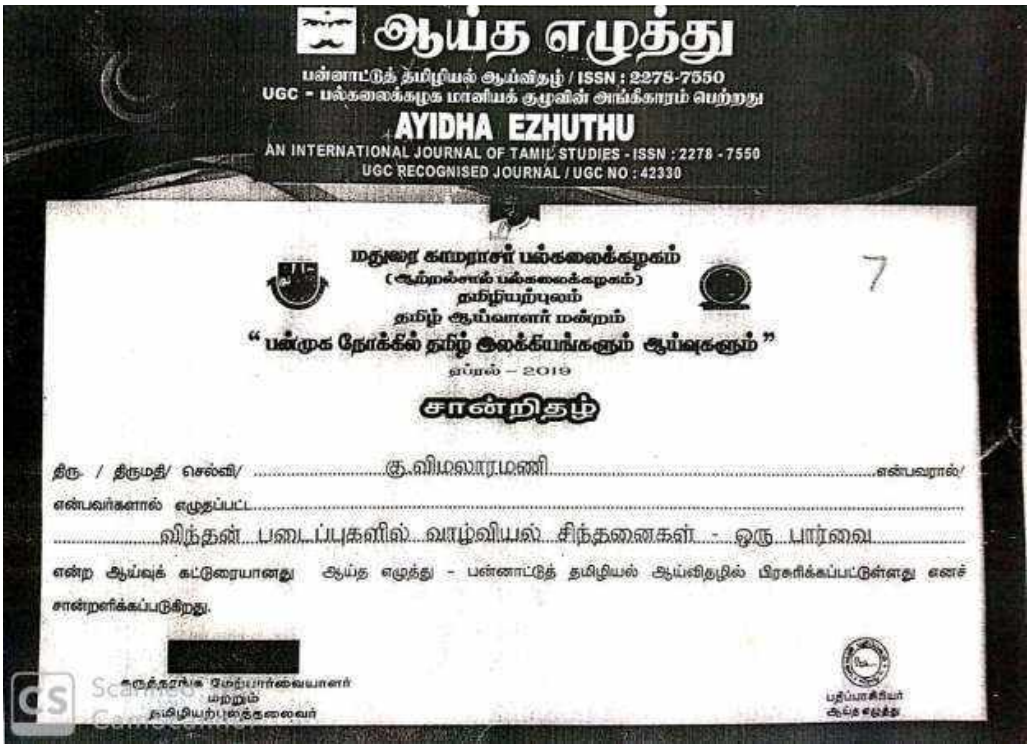


3.3.2. Number of research papers per teacher in the Journals notified on UGC

.



3.3.2. Number of research papers per teacher in the Journals notified on UGC



ஆய்த எழுத்து

பன்னாட்டுத் தமிழியல் ஆய்விதழ் / ISSN : 2278-7550

UGC - பல்கலைக்கழக மானியக் குழுவின் அங்கீகாரம் பெற்றது

AYIDHA EZHUTHU

AN INTERNATIONAL JOURNAL OF TAMIL STUDIES - ISSN : 2278 - 7550

UGC RECOGNISED JOURNAL / UGC NO : 42330

மதுரை காமராசர் பல்கலைக்கழகம்

(ஆற்றல்சார் பல்கலைக்கழகம்)

தமிழ்ப்புலம்

தமிழ் ஆய்வாளர் மன்றம்

"பன்முக நோக்கில் தமிழ் இலக்கியங்களும் ஆய்வுகளும்"

ஏப்ரல் – 2019

7

சான்றிதழ்

திரு. / திருமதி/ செல்வி/ ....கு.விமலாராமணி.... என்பவரால்/

என்பவர்களால் எழுதப்பட்ட.....

....விந்தன் படைப்புகளில் வாழ்வியல் சிந்தனைகள் - ஒரு பார்வை....

என்ற ஆய்வுக் கட்டுரையானது ஆய்த எழுத்து - பன்னாட்டுத் தமிழியல் ஆய்விதழில் பிரசுரிக்கப்பட்டுள்ளது எனச் சான்றளிக்கப்படுகிறது.

[redacted]

கருத்தாளுங்க மேற்பார்வையாளர் மற்றும் தமிழியற்புலத்தலைவர்

பதிப்பாசிரியர் ஆய்த எழுத்து

தமிழ்த்துறை

ஜி.டி.என். கலைக் கல்லூரி

பாண்டிய நாட்டு வரலாற்று ஆய்வு மையம் மற்றும்

நியூசெஞ்சுரி புக் ஹவுஸ் (சென்னை)

இணைந்து நடத்தும்

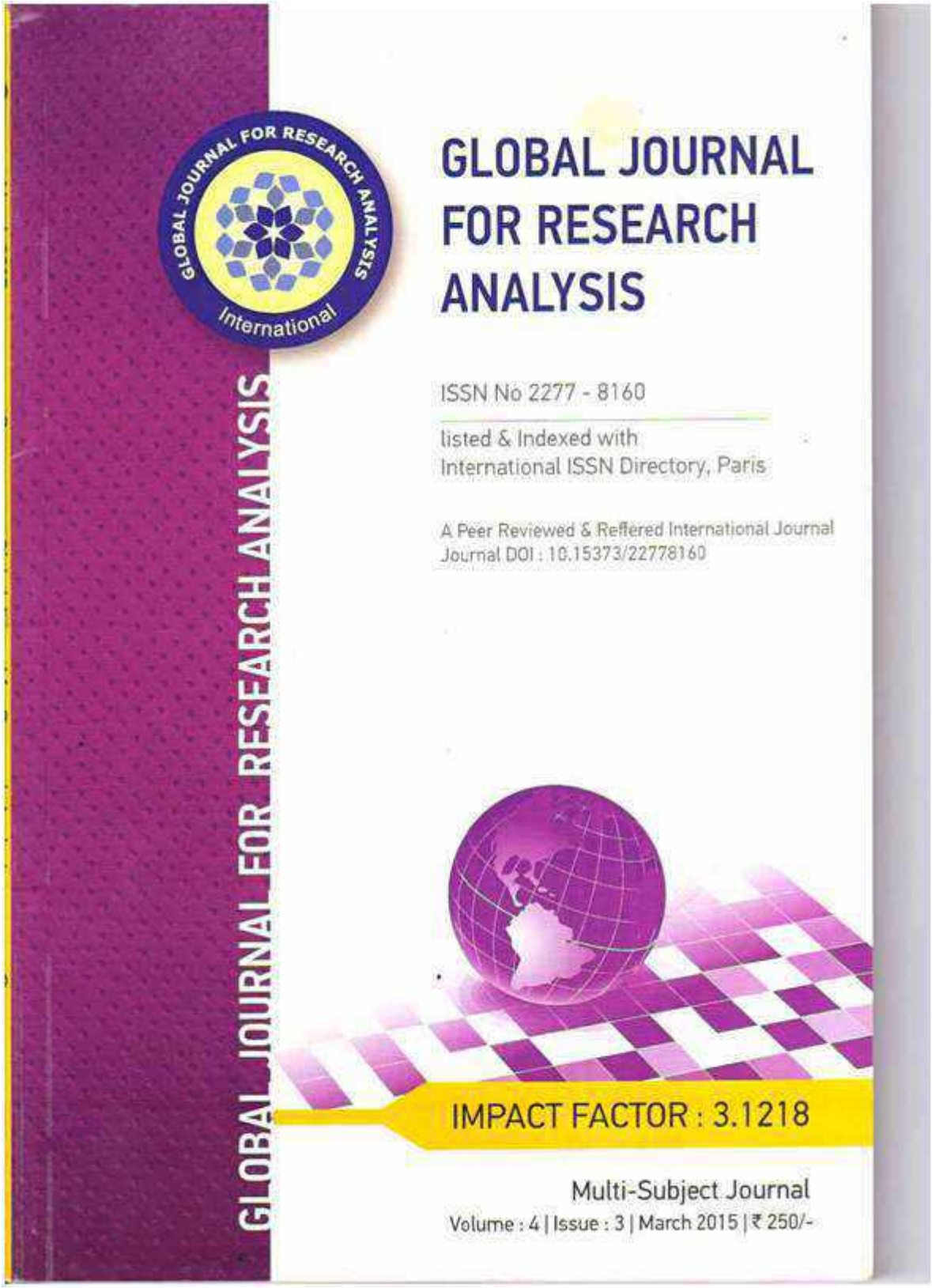
திருவள்ளுவர் ஆண்டு 2051 **பன்னாட்டுக் கருத்தரங்கம்** ஜனவரி 25, 2020 சனிக்கிழமை

சான்றிதழ்

தமிழ்த்துறை, ஜி.டி.என். கலைக் கல்லூரி, பாண்டிய நாட்டு வரலாற்று ஆய்வு மையம் மற்றும் நியூசெஞ்சுரி புக் ஹவுஸ் (சென்னை) இணைந்து "தமிழ் இலக்கியங்களில் பண்பாடு குறித்த பதிவுகள்" எனும் தலைப்பில் நிகழ்த்திய ஒருநாள் பன்னாட்டுக் கருத்தரங்கில் பங்கேற்று புதுக்கோட்டையில் அமர்ந்துள்ள ஆய்வாளர் முனைப்புணர்வு சிந்தனைகள் எனும் தலைப்பில் ஆய்வுக் கட்டுரை வழங்கிய செல்வி / திருமதி / திரு / முனைவர் திரு. கண்ணன் அவர்களைப் பாராட்டி இச்சான்றிதழ் வழங்கப்படுகிறது.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Commerce



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume-4, Issue-3, March-2015 • ISSN No 2277 - 8160

Research Paper | Commerce

Women Entrepreneurship in India: Challenges and Problems

Dr. D.Janet Rajakumari — Associate Professor, Dept.of Commerce, Urumu Dhanalakshmi College. Tiruchirappalli

Ms. J.Angel Beulah Gracelin — Research Scholar, Dept. of Commerce, Urumu Dhanalakshmi College, Tiruchirappalli

ABSTRACT

Women entrepreneurship is now a days a major opportunity for the people who migrate in areas. On the country it is also a fact that the majority of women entrepreneurs are facing many problems due to not availability of primary amenities in areas of developing country like India. Lack of education, financial problems, insufficient technical and conceptual ability it is too difficult for the women entrepreneurs to establish industries in the areas. The environment in the family, society and support system is not conducive to encourage people to take up entrepreneurship as a career. It may be due to lack of awareness and knowledge of entrepreneurial opportunities. The young and well educated mostly tend to leave. As per circumstances, I people by force may be more self-sufficient than their urban counterparts, but the culture of women entrepreneurship tends to be weak. Continuous motivation is needed in case of employee who is sometime difficult for an entrepreneur to Problems in Women Entrepreneurship Entrepreneurs are playing very important role in the development of economy. They face various problems in day to day work. As the thorns are part of rose, similarly every flourishing business has its own kind of problems. Some of the major problems faced by women entrepreneurs are as under. This paper makes an attempt to find out the problems and challenges for the potentiality of women entrepreneurship. It also focuses on the major problems faced by women entrepreneurs especially in the fields of marketing of products, financial amenities and other primary amenities, i.e. availability of electricity, water supply, transport facilities and required energy etc. The changing global environment raises questions about the ability of traditional, small-scale businesses in areas to share the potential benefits offered by the changing environments. The rapid (though decline) population growth, coupled with even faster urbanization, creates increasing demands. In India, populations in general grow about twice as fast as the overall total, and by 2020 they may exceed the size of populations. Such a major demographic trend challenges the capacities of some traditional small-scale businesses to cope with the increasing demands.

KEYWORDS :

Introduction

Entrepreneur is an economic agent who plays a vital role in the economic development of a country. Economic development of a country refers to steady growth in the income levels. This growth mainly depends on its entrepreneurs. The role of entrepeeneurs depending on the material resources, industry climate and responsiveness of the political system it varies from economy to economy. Women entrepreneurship implies entrepreneurship emerging in areas is establishing industries in areas are called women entrepreneurship. Diversification of available resources such as entering for tourists, blacksmithing, carpentry, spinning, etc. as well as diversification in to activities other than those solely related to agricultural usage, for example, the use of other than such as water, woodlands, buildings available skills and local features all fit in to women entrepreneurship. Women entrepreneurship is a process which introduces new things in the economy. Industrialization helps to answer to poverty, unemployment and backwardness of Indian economy. Government in its successive five year plans has been assigning increasing importance and support for the promotion and development of women entrepreneurship. Balanced development is the need of hour and it is possible only if flourishes.

The problem is essentially lopsided development which is a development of one area at the cost of development of some other place, with concomitant associated problems of underdevelopment. For instance, we have seen unemployment or underemployment in the villages that has led to influx of population to the cities. What is needed is to create a situation so that the migration comes down. Migration per se is not always undesirable but it should be the minimum as far as employment is concerned. Rather the situation should be such that people should find it worthwhile to shift themselves from towns and cities to areas because of realization of better opportunities there. In other words, migration from areas should not only get checked but overpopulated towns and cities should also get decongested. If it is so ways can always be found out. One is by forcibly stopping villagers from settling in the slums of towns and cities, making use of all powers to clear the slums so the villagers are forced to go back. But such practices have not achieved the desired results in the past. Apart from causing suffering to the poor people and adding to the expenditure of the government, social tensions and economic hardships created by the government officials and their staff in every demolition of slums is not desirable from a same government.

The following are the main objective:

1. To study the role of women entrepreneurship in economic development of the country.
2. To analyse the economic impact of micro business on empowerment women entrepreneurs.
3. To study the problems and challenges of women entrepreneurs in their various dimensions.

Women Entrepreneurship in India

Who should be capable of making use of government policies and schemes for the betterment of people? Some individuals who happen to be local leaders and NGOs and who are committed to the cause of the people have been catalytic agents for development. Though their efforts need to be recognized yet much more needs to be done to reverse the direction of movement of people, i.e. to attract people in their areas. It means not only stopping the outflow of people but also attracting them back from the towns and cities where they had migrated. This is possible when young people consider areas as places of opportunities. Despite all the inadequacies in areas one should assess their strengths and build on them to make areas places of opportunities. This is much to do with the way one sees the reality of areas. The way a survivor or job seeker would see things would certainly be different from those like to do something worthwhile and are ready to go through a difficult path to achieve their goals. It isn't that there is a death of people with such a mindset. But with time change their minds and join the bandwagon of job seekers due to various complications.Enabling them to think positively, creatively and entrepreneurship purposefully is most of the development of areas. Young people with such perspective and with the help of rightly channelized efforts usher in an era of women entrepreneurship.

Optimum utilization of local resources in an entrepreneurial venture

3.3.2. Number of research papers per teacher in the Journals notified on UGC

by population-better distributions of the farm produce results in the prosperity. Entrepreneurial occupation population to reduce discrimination and providing alternative-occupations as against the migration. To activate such system to provide basic /prr manpower, money, material, machinery, management and markets to the population.

Challenges Faced by Women Entrepreneurship in India:

Family Challenges:

Convincing to opt for business over job is easy is not an easy task for an individual. The first thing compared is-will you make more money in the business of your choice or a successor of family business. This is where it becomes almost impossible to convince that you can generate more cash with passion than doing what your dad is doing.

Social Challenges:

Family challenges are always at the top because that is what matter the most but at times social challenges also are very important. Let us say you and your friend graduated at the same time. You opted for entrepreneurship and your friend opted for a job. He now has a flat, car and what not because he could easily get those with a bank loan but you still have nothing to show off and this is where the challenge comes.

Technological Challenges:

Indian education system lags too much from the job industry as a whole but then it lages even more when it comes to online entrepreneurship. What technology would be ideal and how to use that technology effectively?

Financial Challenges:

Financial challenges are a lot different in India especially for online entrepreneurs. When you are starting out as an entrepreneur you don't opt for venture but try to go to funding for small to medium business people. Many such non-technical business people don't understand the online business models as a whole and so getting an initial business funding from them becomes challenging. The other option you think of is a loan but bank loan is not at all an option in India for new online entrepreneurs.

Policy challenges:

How and then there is lots of changes in the policies to change in the government. Problems of TRFS and TRIMS. Problems of rising equity capital, problems of availing raw materials, problems of obsolescence of indigenous technology increased pollution ecological imbalanced. Exploitation of small and poor countries etc.

A. Opportunities

- Free entry into world trade
- Improved risk taking ability.
- Governments of nations withdrawn some restrictions.
- Technology and inventions spread into the world.
- Encouragement to innovations and inventions.
- Promotion of healthy competitions among nations.
- Benefits of specialization.
- Social and cultural development.

B. Challenges for Women Entrepreneurs

- Growth of Mall Culture
- Poor Assistance
- Power Failure
- Lack of Technical know how
- Capacity Utilization

C. Opportunities for Women Entrepreneurs

- Crashed Scheme for Entrepreneurship Development
- Food for Work Program
- National Rural Employment Program
- Regional Rural Development Centers
- Bank of Technology
- Rural Innovation Funding

D. Need for Creating Indian Entrepreneurs -A Snapshot:

A recent mckinsey &company Nasscom report estimates that India needs at least 8'900 new business to achieve its target of building a US$67 billion IT sector. -In the next 10 years, 110-130 million Indian citizens will be searching for jobs. Including 80-100 million looking for their first jobs.

Problems of Women Entrepreneurship

Entrepreneurs are playing very important role in the development of economy. They face various problems in day to day work. As the thorns are part of roses, similarly every flourishing business has its own kind of problems. Some of the major problems faced by entrepreneurs a under.

Financial Problems

Most of the women entrepreneurs fail to get external funds due to absence of tangible security and credit in the market. The procedure to avail the loan facility is too time-consuming that its delay often disappoints the women entrepreneurs. Lack of finance available to women entrepreneurs is one of the biggest problems which women entrepreneur is born now days especially due to global recession. Major difficulties faced by women entrepreneurs include low level of purchasing power of consumer so sales volume is insufficient, lack of finance to start business, reduced profits due to competition, pricing of goods and services, financial statements are difficult to be maintained by women entrepreneur, stringent tax laws, lack of guarantee for raising up of loans, difficulty in raising capital through equity, dependence on small money lenders for loans for which they charge discriminating interest rates and huge rent and property cost. The growth of women entrepreneurs is not very healthy in spite of efforts made be government due to lack of proper and adequate infrastructure facilities, women entrepreneurs have less risk bearing capacity due to lack of financial resources and external support

Marketing problems

Women entrepreneurs face severe completion of large sized organization and urban entrepreneurs. They facue the high cost of production due to high input cost. Major problems faced by marketers are the problem of standardization and competition from large scale units. They face the problem in fixing the standards and sticking to them. Competition from large scale units also creates difficulty for the survial of new ventures. New ventures have limited financial resources and hence cannot afford to spend more on scale promotion. These units are not having any standard brand name under which they can sell their products. New ventures have to come up with new advertisement strategies which the people can easily understand. Undersupie of enough food stocks with government warehouses, people are dying of starvation. This indicates a problem with the public distribution system. The producers are not collective in their approach for marketing their products because they are too widely scattered and uneducated.

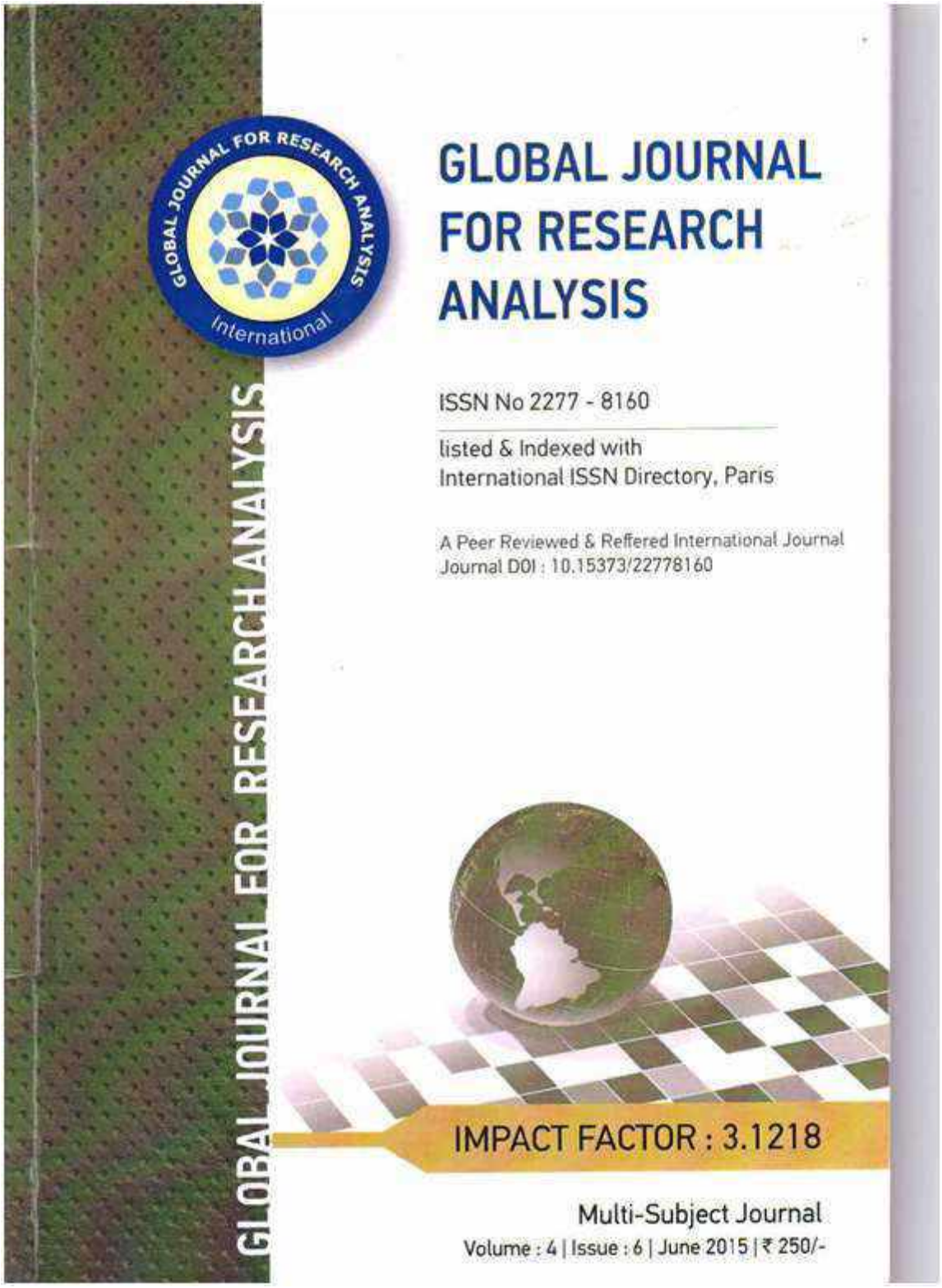
Middlemen exploit women entrepreneurs. The women entrepreneurs are heavily dependent on middlemen for marketing of their products who pocket large amount of profit. Storage facilities and poor mean of trasnport are other marketing problems in areas. In most of the villages, farmers store the produce in open space, in bags or earthen vessels etc. So these indigenous methods of storage are not capable of protecting the produce from dampness, weevils etc. The agriculture goods are not standardized and graded.

Management Problems

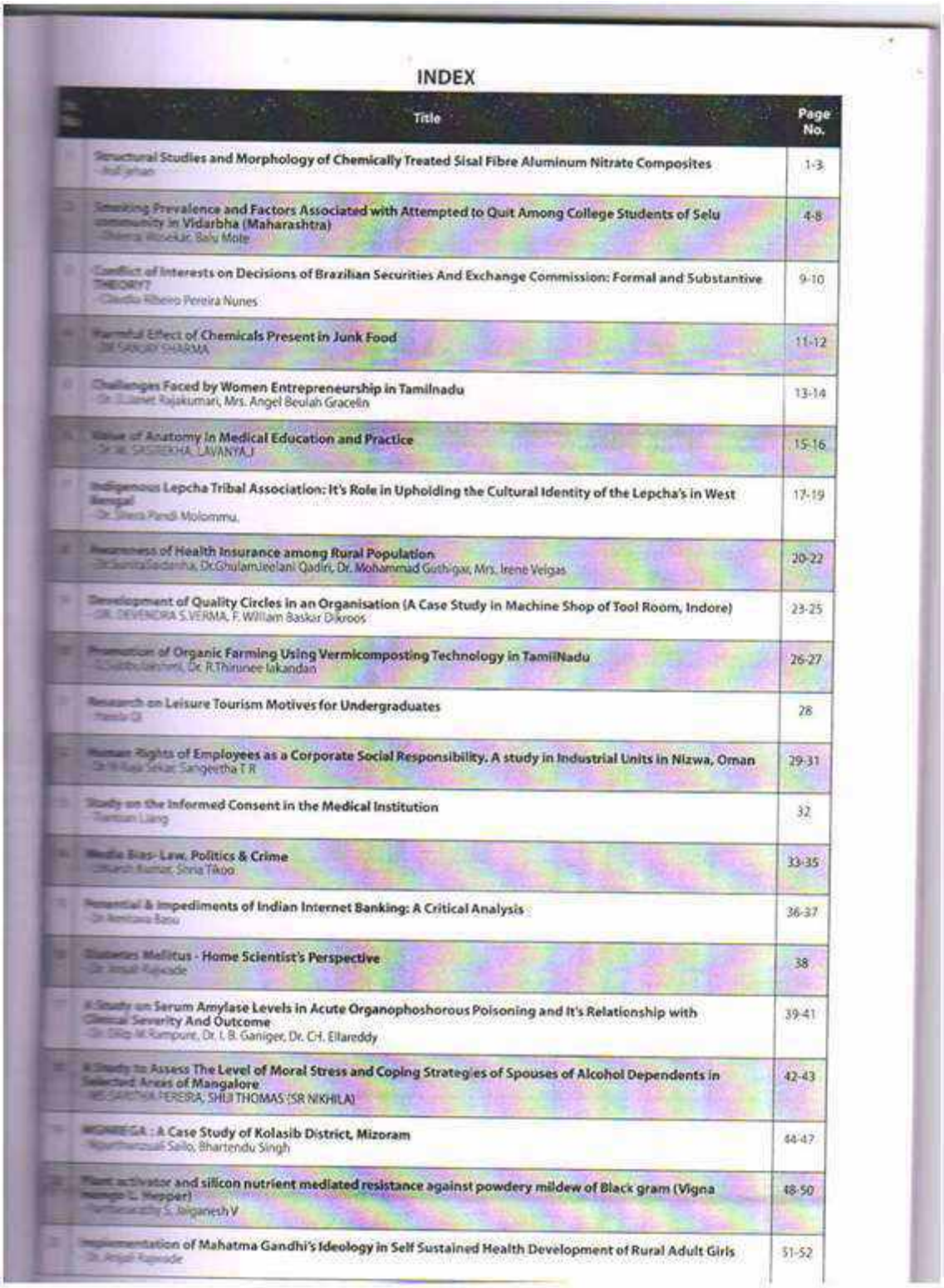
Information technology is not very common in areas. Entrepreneurs rely on internal sources that encourage the flow of goods, services, information and ideas. The intensity of family and personal relation-

Volume-4, Issue-3, March-2015 • ISSN No 2277 - 8160

3.3.2. Number of research papers per teacher in the Journals notified on UGC



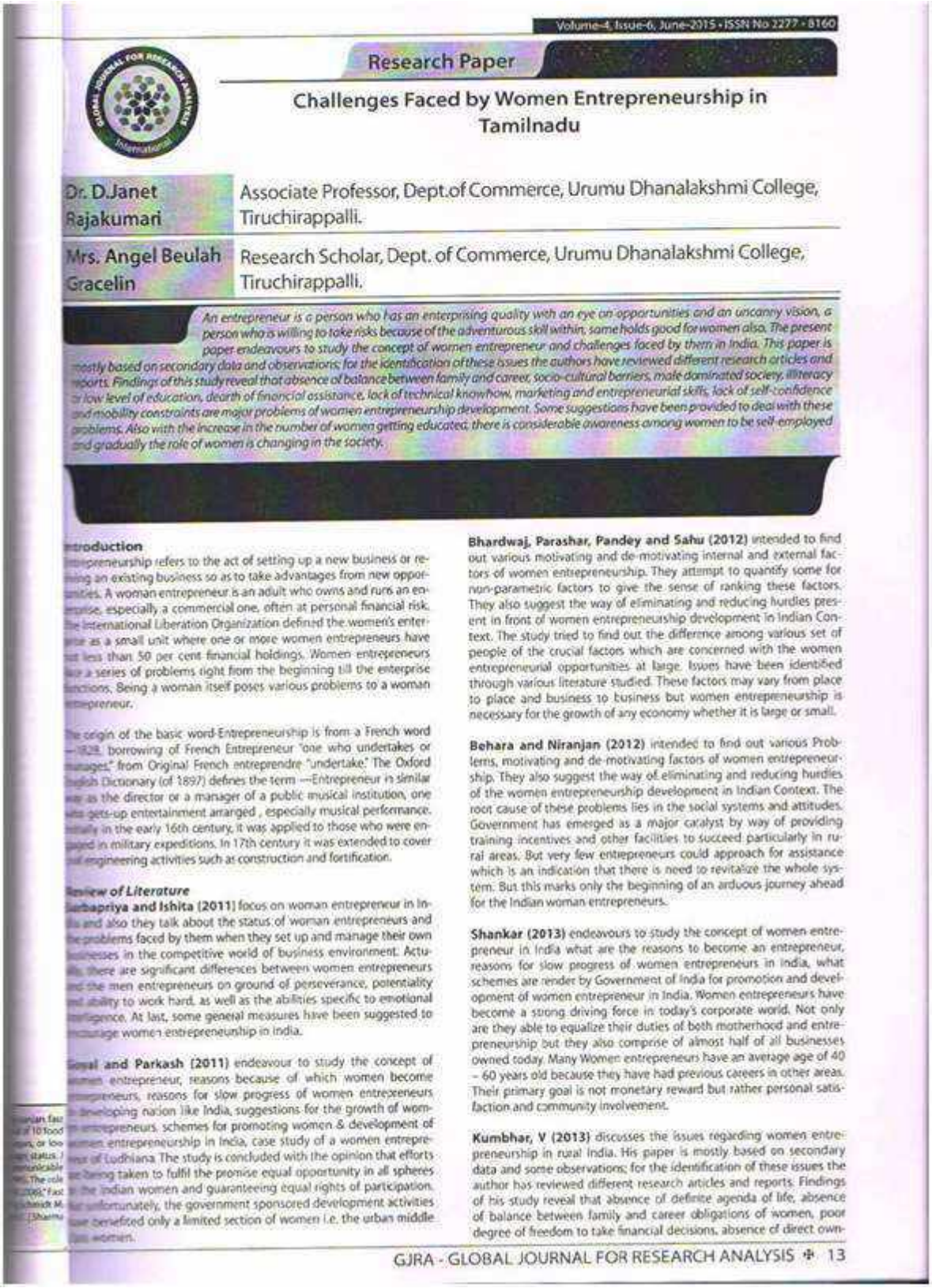
3.3.2. Number of research papers per teacher in the Journals notified on UGC



INDEX

Title	Page No.
Structural Studies and Morphology of Chemically Treated Sisal Fibre Aluminum Nitrate Composites	1-3
Smoking Prevalence and Factors Associated with Attempted to Quit Among College Students of Selu community in Vidarbha (Maharashtra)	4-8
Conflict of Interests on Decisions of Brazilian Securities And Exchange Commission: Formal and Substantive THEORY?	9-10
Harmful Effect of Chemicals Present in Junk Food	11-12
Challenges Faced by Women Entrepreneurship in Tamilnadu	13-14
Value of Anatomy in Medical Education and Practice	15-16
Indigenous Lepcha Tribal Association: It's Role in Upholding the Cultural Identity of the Lepcha's in West Bengal	17-19
Awareness of Health Insurance among Rural Population	20-22
Development of Quality Circles in an Organisation (A Case Study in Machine Shop of Tool Room, Indore)	23-25
Promotion of Organic Farming Using Vermicomposting Technology in TamilNadu	26-27
Research on Leisure Tourism Motives for Undergraduates	28
Human Rights of Employees as a Corporate Social Responsibility. A study in Industrial Units in Nizwa, Oman	29-31
Study on the Informed Consent in the Medical Institution	32
Media Bias- Law, Politics & Crime	33-35
Potential & Impediments of Indian Internet Banking: A Critical Analysis	36-37
Diabetes Mellitus - Home Scientist's Perspective	38
A Study on Serum Amylase Levels in Acute Organophoshorous Poisoning and It's Relationship with Clinical Severity And Outcome	39-41
A Study to Assess The Level of Moral Stress and Coping Strategies of Spouses of Alcohol Dependents in Selected Areas of Mangalore	42-43
MGNREGA : A Case Study of Kolasib District, Mizoram	44-47
Plant activator and silicon nutrient mediated resistance against powdery mildew of Black gram (Vigna mungo L. Hepper)	48-50
Implementation of Mahatma Gandhi's Ideology in Self Sustained Health Development of Rural Adult Girls	51-52

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Volume-4, Issue-6, June-2015 • ISSN No 2277 - 8160

Research Paper

Challenges Faced by Women Entrepreneurship in Tamilnadu

Dr. D.Janet Rajakumari — Associate Professor, Dept.of Commerce, Urumu Dhanalakshmi College, Tiruchirappalli.

Mrs. Angel Beulah Gracelin — Research Scholar, Dept. of Commerce, Urumu Dhanalakshmi College, Tiruchirappalli.

An entrepreneur is a person who has an enterprising quality with an eye on opportunities and an uncanny vision, a person who is willing to take risks because of the adventurous skill within, same holds good for women also. The present paper endeavours to study the concept of women entrepreneur and challenges faced by them in India. This paper is mostly based on secondary data and observations; for the identification of these issues the authors have reviewed different research articles and reports. Findings of this study reveal that absence of balance between family and career, socio-cultural barriers, male dominated society, illiteracy or low level of education, dearth of financial assistance, lack of technical knowhow, marketing and entrepreneurial skills, lack of self-confidence and mobility constraints are major problems of women entrepreneurship development. Some suggestions have been provided to deal with these problems. Also with the increase in the number of women getting educated, there is considerable awareness among women to be self-employed and gradually the role of women is changing in the society.

Introduction

Entrepreneurship refers to the act of setting up a new business or re-vising an existing business so as to take advantages from new opportunities. A woman entrepreneur is an adult who owns and runs an enterprise, especially a commercial one, often at personal financial risk. The International Liberation Organization defined the women's enterprise as a small unit where one or more women entrepreneurs have not less than 50 per cent financial holdings. Women entrepreneurs face a series of problems right from the beginning till the enterprise functions. Being a woman itself poses various problems to a woman entrepreneur.

The origin of the basic word-Entrepreneurship is from a French word —1828, borrowing of French Entrepreneur "one who undertakes or manages," from Original French entreprendre "undertake." The Oxford English Dictionary (of 1897) defines the term —Entrepreneur in similar way as the director or a manager of a public musical institution, one who gets-up entertainment arranged , especially musical performance. Initially in the early 16th century, it was applied to those who were engaged in military expeditions. In 17th century it was extended to cover civil engineering activities such as construction and fortification.

Review of Literature

Sarbapriya and Ishita (2011) focus on woman entrepreneur in India and also they talk about the status of woman entrepreneurs and the problems faced by them when they set up and manage their own businesses in the competitive world of business environment. Actually, there are significant differences between women entrepreneurs and the men entrepreneurs on ground of perseverance, potentiality and ability to work hard, as well as the abilities specific to emotional intelligence. At last, some general measures have been suggested to encourage women entrepreneurship in India.

Goyal and Parkash (2011) endeavour to study the concept of women entrepreneur, reasons because of which women become entrepreneurs, reasons for slow progress of women entrepreneurs in developing nation like India, suggestions for the growth of women entrepreneurs, schemes for promoting women & development of women entrepreneurship in India, case study of a women entrepreneur of Ludhiana. The study is concluded with the opinion that efforts are being taken to fulfil the promise equal opportunity in all spheres to the Indian women and guaranteeing equal rights of participation. But unfortunately, the government sponsored development activities have benefited only a limited section of women i.e. the urban middle class women.

Bhardwaj, Parashar, Pandey and Sahu (2012) intended to find out various motivating and de-motivating internal and external factors of women entrepreneurship. They attempt to quantify some for non-parametric factors to give the sense of ranking these factors. They also suggest the way of eliminating and reducing hurdles present in front of women entrepreneurship development in Indian Context. The study tried to find out the difference among various set of people of the crucial factors which are concerned with the women entrepreneurial opportunities at large. Issues have been identified through various literature studied. These factors may vary from place to place and business to business but women entrepreneurship is necessary for the growth of any economy whether it is large or small.

Behara and Niranjan (2012) intended to find out various Problems, motivating and de-motivating factors of women entrepreneurship. They also suggest the way of eliminating and reducing hurdles of the women entrepreneurship development in Indian Context. The root cause of these problems lies in the social systems and attitudes. Government has emerged as a major catalyst by way of providing training incentives and other facilities to succeed particularly in rural areas. But very few entrepreneurs could approach for assistance which is an indication that there is need to revitalize the whole system. But this marks only the beginning of an arduous journey ahead for the Indian woman entrepreneurs.

Shankar (2013) endeavours to study the concept of women entrepreneur in India what are the reasons to become an entrepreneur, reasons for slow progress of women entrepreneurs in India, what schemes are render by Government of India for promotion and development of women entrepreneur in India. Women entrepeeneurs have become a strong driving force in today's corporate world. Not only are they able to equalize their duties of both motherhood and entrepreneurship but they also comprise of almost half of all businesses owned today. Many Women entrepreneurs have an average age of 40 – 60 years old because they have had previous careers in other areas. Their primary goal is not monetary reward but rather personal satisfaction and community involvement.

Kumbhar, V (2013) discusses the issues regarding women entrepreneurship in rural India. His paper is mostly based on secondary data and some observations; for the identification of these issues the author has reviewed different research articles and reports. Findings of his study reveal that absence of definite agenda of life, absence of balance between family and career obligations of women, poor degree of freedom to take financial decisions, absence of direct own-

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ership of the property, no awareness about capacities, low ability to bear risk, problems of work with male workers, negligence by financial institutions, lack of self-confidence, lack of professional education, mobility constraints and lack of interaction with

Challenges Faced by Women Entrepreneurs

- Lack of Self-Confidence- Women entrepreneurs because of their inherent nature, lack self-confidence which is essentially a motivating factor in running an enterprise successfully. They have to work hard to strike a balance between managing a family and managing an enterprise. Sometimes they have to sacrifice their entrepreneurial urge in order to strike a balance between the two which results in loss of a prospective entrepreneur.
- Mobility Constraints- Women mobility in India is highly limited and has become a problem due to traditional values and limited driving skills. Moving alone and asking for a room to stay out at night for business purposes is still looked upon with suspicious eyes. Sometimes, inexperienced women feel uncomfortable in dealing with men who show extra interest in them other than work related aspects.
- Balance between family and career- Women in India are very emotionally attached to their home and families. They are supposed to attend to all the domestic work, to look after the children and other family members. They are overburdened with family responsibilities like taking care of husband, children and in laws which takes away a lot of their time and energy. In such situation, it is very difficult to concentrate and run an organization successfully and efficiently.
- Lack of Technical knowhow- Management has become a specialised job which only efficient managers perform. Women entrepreneurs sometimes are not efficient in managerial functions like planning, organising, controlling, directing, motivating, recruiting, coordinating, and leading an enterprise. Therefore, less and limited managerial ability of women has become a problem for them to run the enterprise successfully.
- Marketing Skills- Since most women cannot run around for marketing, distribution and money collection, they have to depend on middle men for the above activities. Middle men tend to exploit them in the appearance of helping. They work in order to add their own profit margin which result in less sales and lesser profit for women entrepreneurs.
- Entrepreneurial Skill- Lack of entrepreneurial aptitude is a matter of concern for women entrepreneurs. They have limited entrepreneurial abilities. Even after attending various training programmes on entrepreneurship women entrepreneurs fail to overcome the risks and troubles that may come up in an organisational working.
- Socio-cultural barriers- The traditions and customs prevailing in Indian societies sometimes stand as an obstacle before women which stop them from growing and prospering. Castes and religions dominate our society and hinder women entrepreneurs too. In rural areas, they face even greater social barriers. They are always seen with an eye of suspicion.
- Male dominated society- Even though our constitution speaks of equality between genders, male superiority is still the order of the day. Women are not treated equal to men. Their entry into business requires the approval of the head of the family who is mostly a male member. Entrepreneurship has traditionally been seen as a male task. All these hamper the growth of women entrepreneurs.
- Illiteracy or low level of Education- Women in India are lagging far behind in the field of education. Even after more than 60 years of independence many women are still illiterate. Those who are educated are provided either less or inadequate education than their male counterpart partly due to early marriage, partly due to household responsibilities and partly due to poverty. Due to lack of proper education, most women entrepreneurs remain in dark about the development of new technology, new methods of production, marketing, networking and other govern... support which will encourage them to rise in the field of ... agement.
- Dearth of financial assistance- Women entrepreneurs suffer ... in raising and meeting the financial needs of the business. ... ers, creditors and financial institutes do not come forward ... vide financial assistance to women borrowers on the gro... their less credit worthiness. They also face financial problem ... to blockage of funds in raw materials, inventory, work-in-p... gress, finished goods and non-receipt of payment from cu... ers in time.

Challenges in Suggestion

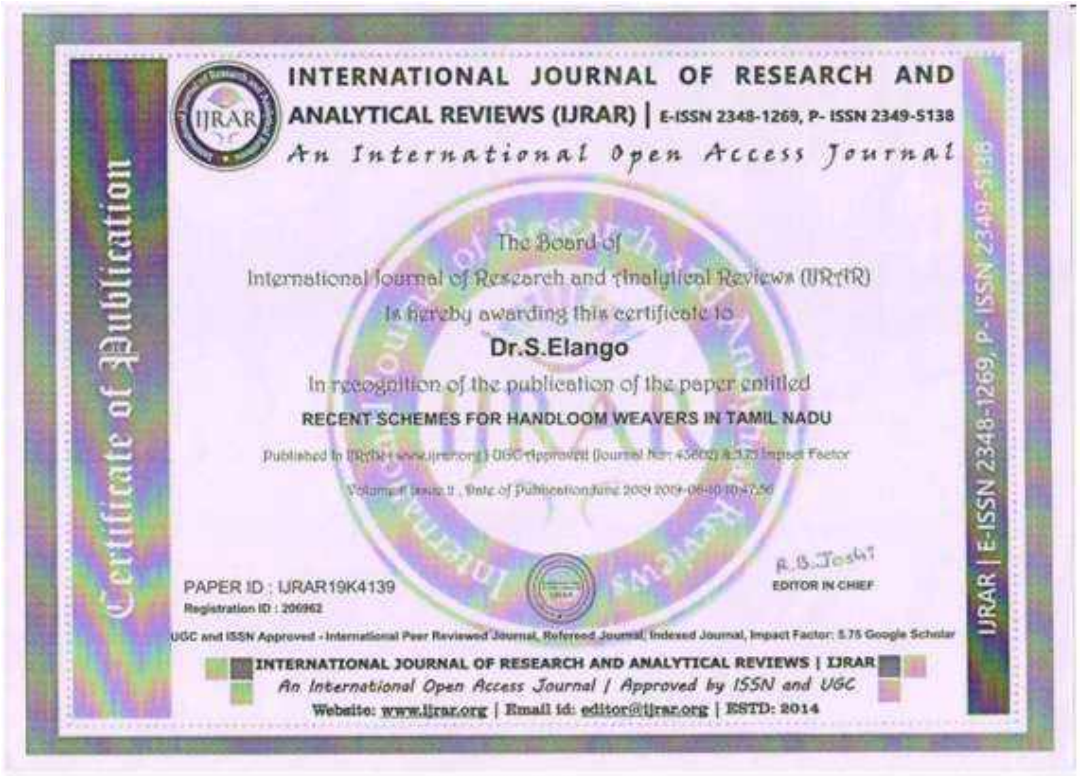
- Government should provide separate financial aid to women ... trepreneurs so that they do not face any difficulty in setti... their organization.
- Training Programmes specially directed at women entrepre... should be conducted to enhance their entrepreneurial skill... abilities which help them in day to day functioning of busine...
- Top ranking women entrepreneurs must be felicitated so ... more women are encouraged and motivated to pursue such ... reers.
- Provision for better educational facilities should be provi... starting from school and further for higher education and ... several vocational studies.
- Women Entrepreneurs' Guidance cell should be opened in all ... ies to handle problems related to day to day functioning like p... duction, marketing, and distribution problems.
- Special infrastructural facilities should be provided to help w... en in establishing their enterprise easily and quickly.
- Several legal policies and regulations for the setup of an en... prise by women must be simplified to help women entre... neurs in establishing their business and getting speedy appr... regarding several legal formalities.
- Mostly importantly the support of family members is require... that women can move out of their homes with confidence. T... can give better output when it is known to them that their d... sions are supported by their family.
- Organization of fairs, exhibitions and workshops for women ... trepreneurs which will help them to connect with each other ... share ideas and problems. It will also provide guidance to ... women entrepreneurs who can take help and suggestions f... their already established counterparts.
- Making provision for marketing and sales assistance so ... women entrepreneurs are not cheated by middle men.

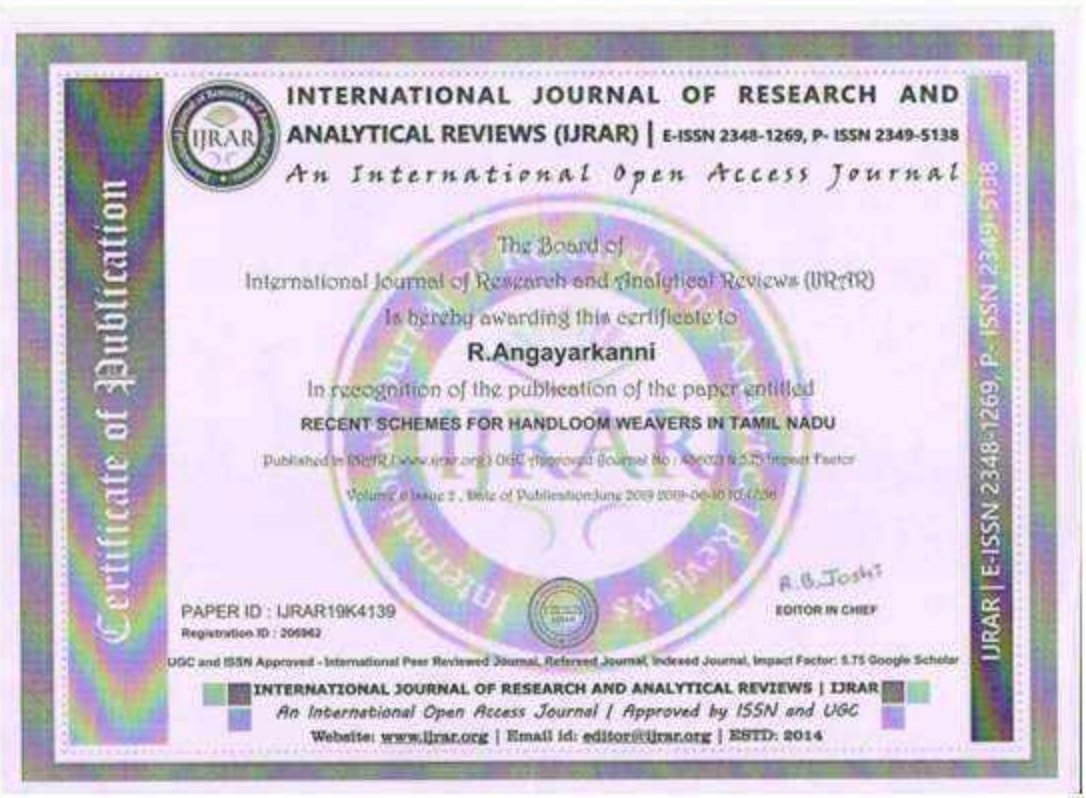
Conclusion

The government schemes, incentives and subsidies have stimu... and provided support measures to women entrepreneurs. With ... increase in the number of women getting education, there is co... erable awareness among women to be self-employed thus leadi... change in the role of women in the society. These women entre... neurs have an average age of forty to sixty years because they ... had previous careers in other areas. Their primary goal is not m... tary gains but rather personal satisfaction and achievement. Time ... come for women to come out of the burden of housework and ... way to their creativity and entrepreneurship. Social and political ... velopments in India have also been responsible for determining ... role of women in a changing society. The various research pa... studied several challenges faced by women entrepreneurs have c... into focus. These include balance between family and caree... cio-cultural barriers, male dominated society, illiteracy or low le... education, dearth of financial assistance, lack of technical knowh... marketing and entrepreneurial skills, lack of self-confidence and ... bility constraints. Despite the increased gender parity in the w... force today, few women attain top management positions in ... corporations.

Bhardwaj, G.N., Parashar, S., Pandey, B. & Sahu, P. (2012). Women Entrepreneurship in India: Opportunities and Challenges, Vol. 2, Issue 1, ... Behura, S.R. & Niranjan, K. (2012). Rural Women Entrepreneurship in India. IJCEM International Journal of Computational Engineering & M... ment, Vol. 15 Issue 6, pp. 9-15 ISSN (Online): 2230-7893. [Choudhary, K.N. & Rajalwar, A.R. (2013). Opportunities and Challenges for Rural wo... Entrepreneurship in India. Varionum Multi- Disciplinary e-Research Journal, Vol.-01, Issue- III, pp. 1-4.] Goyal, M. & Parkash, J. (2011). Women Entrepreneurship in India- Problems ... Prospects. International Journal of Multidisciplinary Research, Vol.1 Issue 5, pp. 195-207.]

3.3.2. Number of research papers per teacher in the Journals notified on UGC





3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRAR | E-ISSN 2348-1269, P- ISSN 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR)

An International Open Access Journal | Approved By ISSN and UGC

Ref No : IJRAR/Vol 6 / Issue 2/ 139

To,
R.Angayarkanni
Publication Date 2019-06-10 10:47:56

Subject: Publication of paper at International Journal of Research and Analytical Reviews (IJRAR).

Dear Author,

With Greetings we are informing you that your paper has been successfully published in the International Journal of Research and Analytical Reviews (IJRAR) - IJRAR (E-ISSN 2348-1269, P- ISSN 2349-5138). Thank you very much for your patience and cooperation during the submission of paper to final publication Process. It gives me immense pleasure to send the certificate of publication in our Journal. Following are the details regarding the published paper.

About IJRAR	: UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.75, E-ISSN 2348-1269, P- ISSN 2349-5138
UGC Approval	: Journal No: 43602
Registration ID	: IJRAR 206962
Paper ID	: IJRAR19K4139
Title of Paper	: RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMIL NADU
Impact Factor	: 5.75 (Calculate by Google Scholar) | License by Creative Common 3.0
DOI	:
Published in	: Volume 6 | Issue 2 | June 2019
Publication Date	: 2019-06-10 10:47:56
Page No	: 43-46
Published URL	: http://www.ijrar.org/viewfull.php?&p_id=IJRAR19K4139
Authors	: R.Angayarkanni, Dr.S.Elango

Thank you very much for publishing your article in IJRAR. We would appreciate if you continue your support and keep sharing your knowledge by writing for our journal IJRAR.

A.B.Joshi

Editor In Chief
International Journal of Research and Analytical Reviews - IJRAR
(E-ISSN 2348-1269, P- ISSN 2349-5138)

3.3.2. Number of research papers per teacher in the Journals notified on UGC

© 2019 IJRAR June 2019, Volume 6, Issue 2 www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMIL NADU

[1]R.ANGAYARKANNI [2]Dr.S.ELANGO
Assistant Professors in Commerce,
Urumu Dhanalakshmi College,
Tiruchirapalli – 19

ABSTRACT: The State of Tamil Nadu has always been in the forefront of economic growth in the country. The State has made impressive strides over the years to carve out a niche for itself in the fields of engineering, automobiles, textiles, leather, Information Technology, electronic hardware and hi-technology industries. The Gross State Domestic Product (GSDP) stood at 157.85 billion US dollars at constant prices in 2016-17. The industrial GSDP of Tamil Nadu grew at an impressive rate of 8.79% from the year 2011-12 to 2015-16 at constant prices higher than the National average of about 7.6%.

Keywords: Handloom Weavers, Schemes, NHDB, GSDP

1. INTRODUCTION

The textile products from Tamil Nadu handloom weavers are universally recognized for the excellent craftsmanship and their uniqueness are Kancheepuram Silk Sarees, Bhavani Carpet (Jamukalam), Madurai Sungadi Sarees, Coimbatore Kora Sarees, Paramakudi Sarees, Salem Silk Dhoties, Erode and Karur Home Textiles, Tirupur Knitwear Garments, etc. Tamil Nadu acts as the hub of textile exports from the country viz., Tirupur for Knitwear Garments, Coimbatore for Yarn, Karur for Home Textiles and Chennai for Woven Garment exports. The State accounts for 19% of the Nation's Textile output with a robust network of all the sub-sectors of the Textile industry. In Tamil Nadu handloom industry is the largest economic activity of the State after Agriculture.

Table - 1

Total number of handloom weavers in Tamilnadu

Total No. of Handlooms	1,54,509
Total No. of Handloom Weavers	3,52,321

2. RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMILNADU

A. NATIONAL HANDLOOM DEVELOPMENT PROGRAMME (NHDP)

National Handloom Development Programme (NHDP) was introduced in 2013-14, having various components like consolidation of clusters, new cluster, new group approach projects, marketing incentive (MI), strengthening of handloom organization, handloom marketing assistance, handloom census, committed liabilities of Integrated Handlooms Development Scheme (IHDS), Marketing & Export Promotion Scheme (M&EPS) and Diversified Handlooms Development Scheme (DHDS) etc. for its implementation during XII Plan. Prior to 2013-14, Integrated Handlooms Development Scheme (IHDS) was under implementation. The scheme is follow need based approach for integrated and holistic development of handlooms and welfare of handloom weavers.

Cluster Development Programme

During the period 2012-13 to 2017-18, 58 Cluster Development Projects were sanctioned and a sum of Rs.24.32 crore was released, benefiting 25009 handloom weavers. Details of clusters sanctioned for Tamil Nadu are as follows:

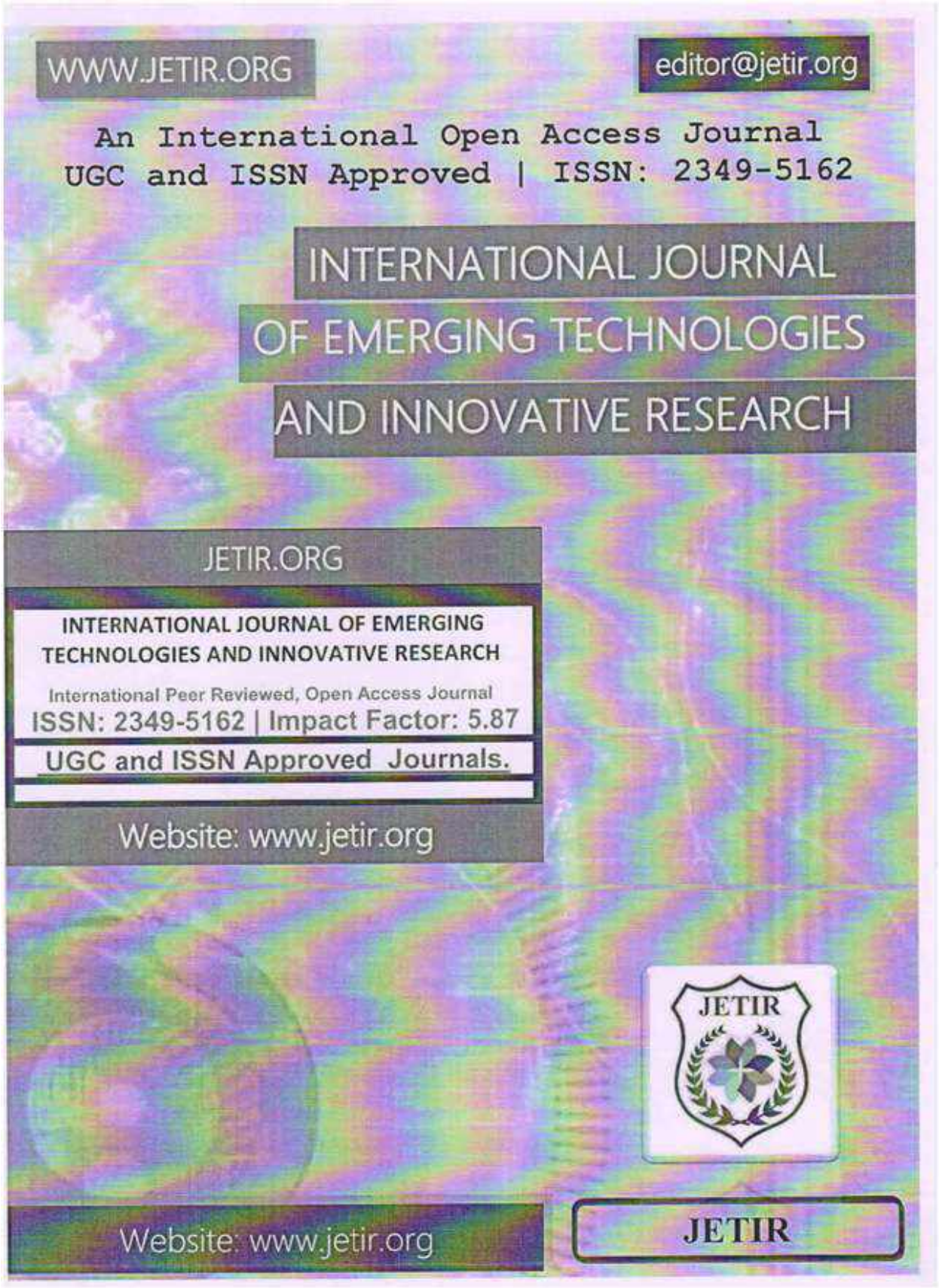
Table - 2

Clusters sanctioned for Tamilnadu

Year	No. of Clusters Sanctioned	Central Share	Amount released (in Crores)
2012-13	12	6.44	2.66
2013-14	-	-	11.08
2014-15	-	-	0.46
2015-16	-	-	0.25
2016-17	9	3.89	1.20
Total	**58**	**29.61**	**24.32**

Source: Statistics of Office of the Development Commissioner (Handlooms), Ministry of Textiles in India

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Emerging Technologies and Innovative Research
An International Open Access Journal
www.jetir.org | editor@jetir.org

Certificate of Publication

The Board of
Journal of Emerging Technologies and Innovative Research (ISSN : 2349-5162)
Is hereby awarding this certificate to
Dr.s.Elango
In recognition of the publication of the paper entitled
FACILITIES AND SUPPORTS PROVIDED BY THE GOVERNMENT TO THE DEVELOPMENT OF THE INDIAN HANDLOOM SECTOR
Published In JETIR (www.JETIR.org) ISSN UGC Approved (Journal No: 63975) & 5.87 Impact Factor
Published in Volume 6 Issue 6 , July-2019 | Date of Publication: 2019-07-20

EDITOR
EDITOR IN CHIEF

JETIR1906Q66 Research Paper Weblink http://www.jetir.org/view?paper=JETIR1906Q66 Registration ID : 216234

Journal of Emerging Technologies and Innovative Research
An International Open Access Journal
www.jetir.org | editor@jetir.org

Certificate of Publication

The Board of
Journal of Emerging Technologies and Innovative Research (ISSN : 2349-5162)
Is hereby awarding this certificate to
R.Angayarkanni
In recognition of the publication of the paper entitled
FACILITIES AND SUPPORTS PROVIDED BY THE GOVERNMENT TO THE DEVELOPMENT OF THE INDIAN HANDLOOM SECTOR
Published In JETIR (www.JETIR.org) ISSN UGC Approved (Journal No: 63975) & 5.87 Impact Factor
Published in Volume 6 Issue 6 , July-2019 | Date of Publication: 2019-07-20

EDITOR
EDITOR IN CHIEF

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH
(International Open Access Journal)
ISSN: 2349-5162

Publication Fee Invoice & Conformation Letter

Ref No : JETIR / Vol 6 / Issue 6 / Q66

To,
R.Angayarkanni
Published in : Volume 6 | Issue 6 | 2019-07-20

Subject: Publication of paper at International Journal of Emerging Technologies and Innovative Research .

Dear Author,

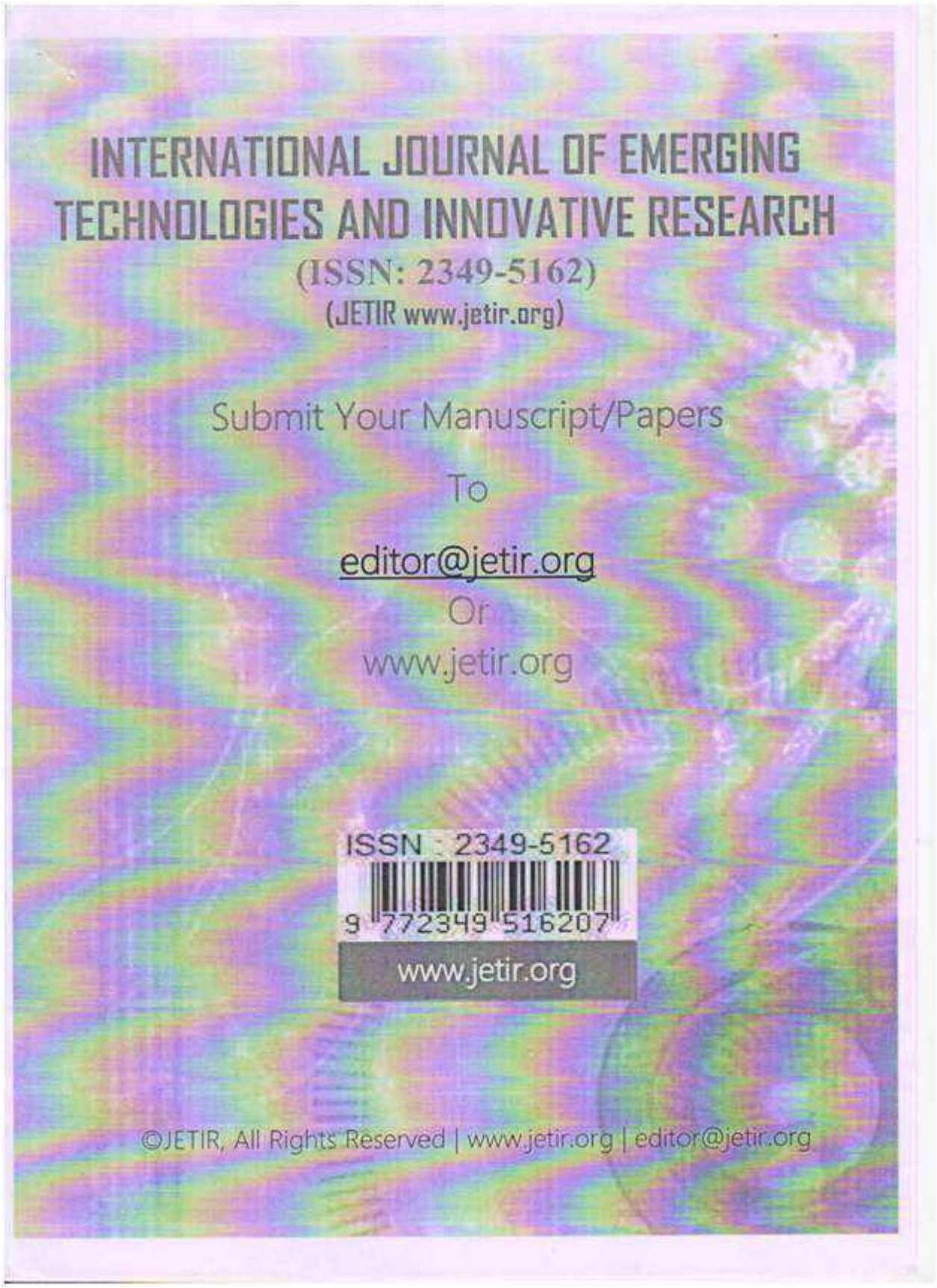
With Greetings we are informing you that your paper has been successfully published in the International Journal of Emerging Technologies and Innovative Research (ISSN: 2349-5162). Thank you very much for your patience and cooperation during the submission of paper to final publication Process. It gives me immense pleasure to send the certificate of publication in our Journal. Following are the details regarding the published paper.

About JETIR	: UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.87, ISSN: 2349-5162
UGC Approval	: UGC and ISSN Approved - Journal No: 63975 | Link: https://www.ugc.ac.in/journallist/subjectwisejurnallist.aspx?tid=MjM0OTUxNjI=&&did=U2VhcmNoIGJ5IEITU04=
Registration ID	: JETIR 216234
Paper ID	: JETIR1906Q66
Title of Paper	: FACILITIES AND SUPPORTS PROVIDED BY THE GOVERNMENT TO THE DEVELOPMENT OF THE INDIAN HANDLOOM SECTOR
Impact Factor	: 5.87 (Calculate by Google Scholar)
Licence	: UGC,ISSN,DOI and Creative Common Approved
DOI	:
Published in	: Volume 6 | Issue 6 | 2019-07-20
Publication Date	: 2019-07-20
Page No	: 467-469
Published URL	: http://www.jetir.org/view?paper=JETIR1906Q66
Authors	: R.Angayarkanni, Dr s.Elango

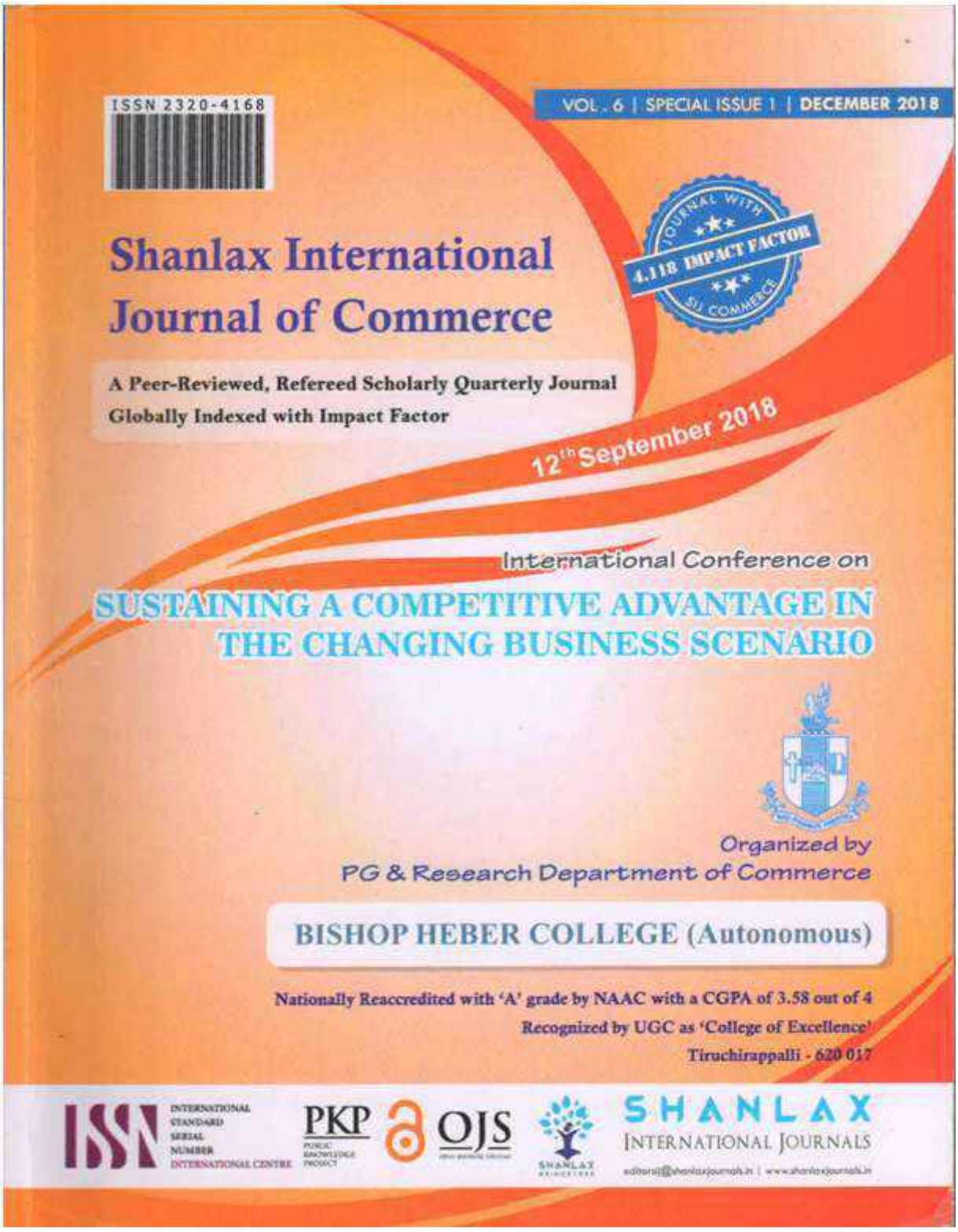
Thank you very much for publishing your article in JETIR. We would appreciate if you continue your support and keep sharing your knowledge by writing for our journal JETIR.

Editor In Chief
International Journal of Emerging Technologies and Innovative Research
(ISSN: 2349-5162)

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

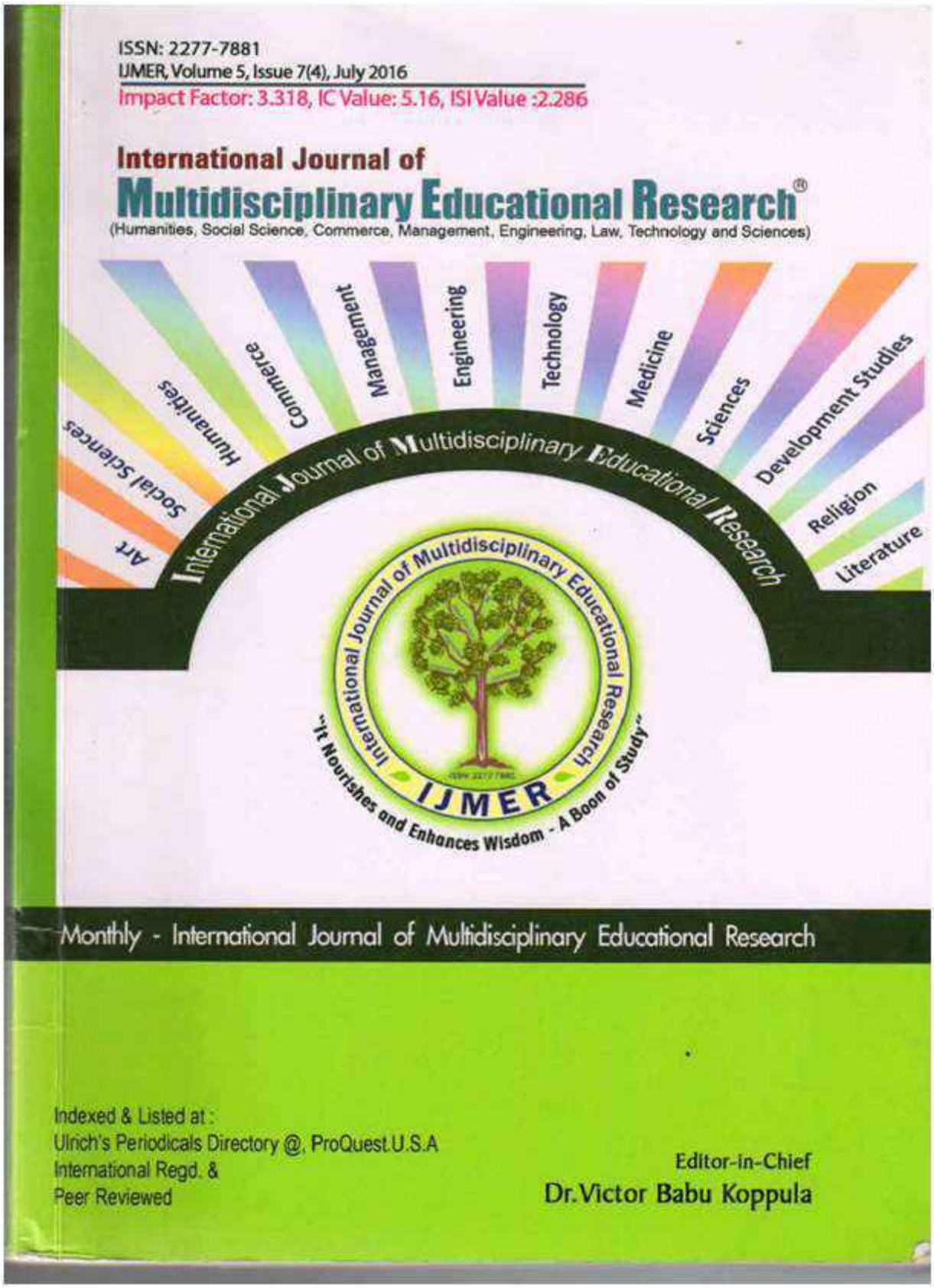


3.3.2. Number of research papers per teacher in the Journals notified on UGC

Contents

1	"A Perceptional Study on Mobile Banking" ***Jisha James & A.Aishwarya***	1
2	A Study on the Effectiveness of Synthetic Bags ***Dr.M.Vasantha & Mr.P.Senthil Kumar***	6
3	A Study on Training and Development in Private Sector Banks in Thiruvarur Town ***S.Suganthi & S.Sakila Banu***	12
4	Gaining Competitive Advantage Through Marketing ***Christina Sonia & Amrutha Shetty***	17
5	Legal Threats in Digital Banking Sector ***Mrs.M.Pratheepa & Dr.A.Selvendran***	23
6	"A Study on the Impact of Celebrity Endorsement towards Chennai Silks, Tiruchirappalli" ***Dr.B.Arthi & M.G.Jeyalakshmi***	28
7	Effect of E-Banking Services on Customer Value and Customer Loyalty ***Dr.B.Abdul Suban***	34
8	"E-Commerce" ***T.B.Divya & S.Monika***	41
9	E-Marketing - A Global Perspective ***Dr.D.Muthusamy & N.Shoba***	45
10	An Insight into the Insurance Sector: Post Privatisation with Special Reference to Motor Insurance ***Dr.M.R.Vidhya***	50
11	Employee's Work Attitude - Sulekha Organization ***Dr.N.Chithra***	54
12	Impact of Advertisement on FMCG Products in Tiruvarur Town, Tamil Nadu ***Dr.G.T.Vijayalakshmi & Ms.H.Musthari Nisha***	65

3.3.2. Number of research papers per teacher in the Journals notified on UGC



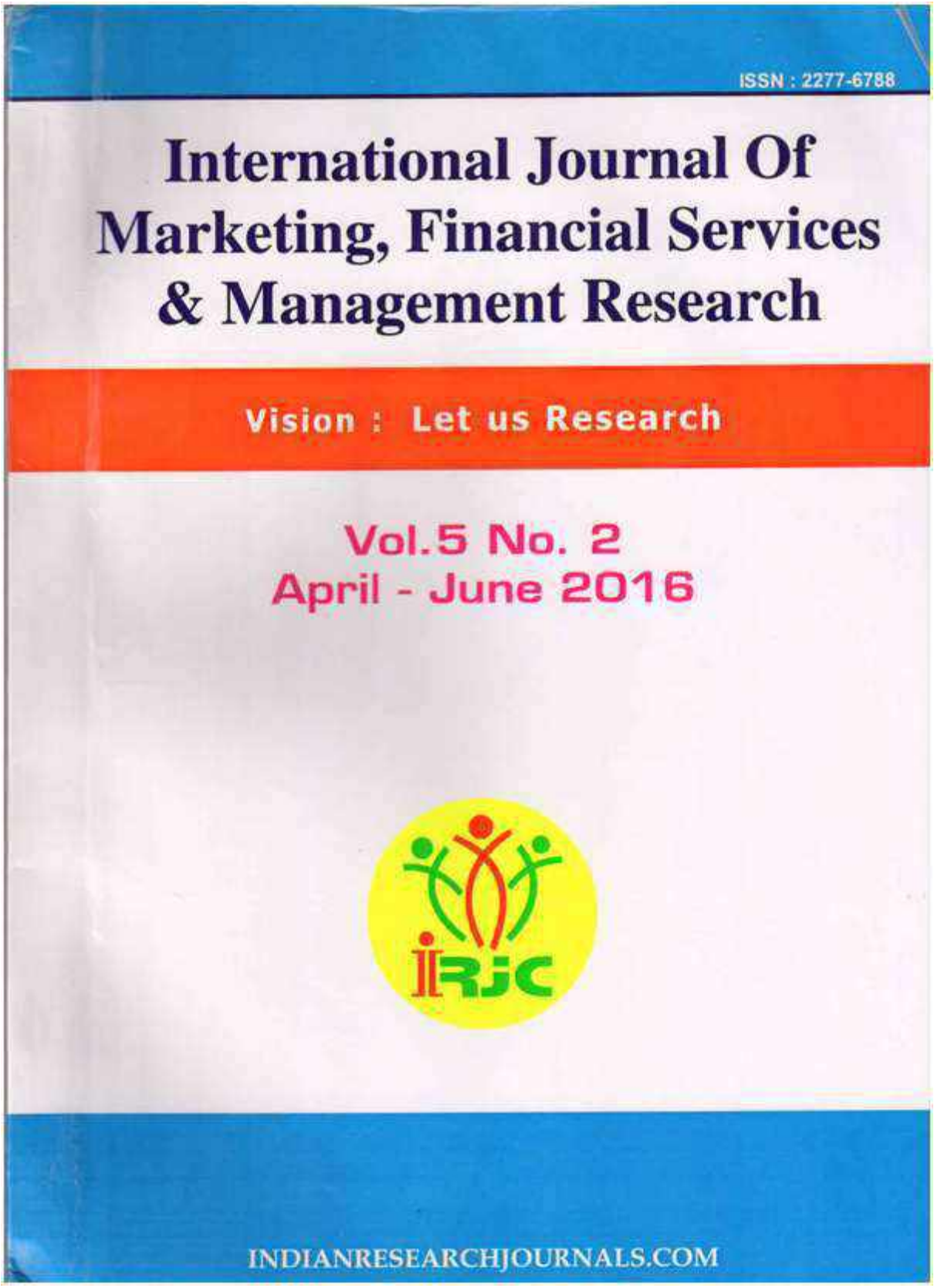
3.3.2. Number of research papers per teacher in the Journals notified on UGC

CONTENTS

Volume 5 **Issue 7(4)** **July 2016**

S. No		Page No
1.	The Ethical and Social Perspective in *Īśavāsya Upaniṣad* **Joseph. N**	1
2.	Perception and Preference of Mutual Funds Investors in Karur **B.Arthi**	8
3.	E-Customer Relationship Management (CRM) in Banks **G.Thirumalaiah and C.S.Sukumar Reddy**	20
4.	Indira Gandhi as A New Soul of India **T.Sukanya**	28
5.	The Nation, History and Identities-Vikram Chandra, Boman Desai and K Rajnarayanan Novels **Suresh Kunta**	51
6.	Protection against Standard form of Contract **Lavanya Kaushik**	61
7.	Women Empowerment through Education **Yankatappa Saibanna**	76
8.	Effectiveness of Smart Classroom Teaching in BCA Department **Vivek Chjaplot**	86
9.	Job Satisfaction among Women Faculty in Self Financing Colleges with Reference to Coimbatore **Saranya.W and Rr.Jayachandran**	92
10.	The History of Seven Years' War **L. Hussain Mouli**	101

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

INTERNATIONAL JOURNAL OF MARKETING,
FINANCIAL SERVICES & MANAGEMENT RESEARCH
Vol.5 No.2, Apr.-Jun. 2016, ISSN 2277-6788

C O N T E N T S

CROWD FUNDING IN INDIA: AN INNOVATIVE SOURCE OF FINANCING STARTUPS & MSMES 1
Shri Narayan Pandey

A STUDY ON BUSINESS PROFILE OF RETAILERS IN VIRUDHUNAGAR DISTRICT 12
Prof. M. Gurusamy, Dr. M. Anbalagan

PURSUING CHARTERED ACCOUNTANCY STUDIES AND GRADUATION SIMULTANEOUSLY : ISSUES AND CHALLENGES 21
Dr Jehangir Bharucha

STRATEGIES FOR DISASTER MANAGEMENT TO REDUCE IMPACT OF NATURAL DISASTER IN INDIA 30
Siddharth Tilak

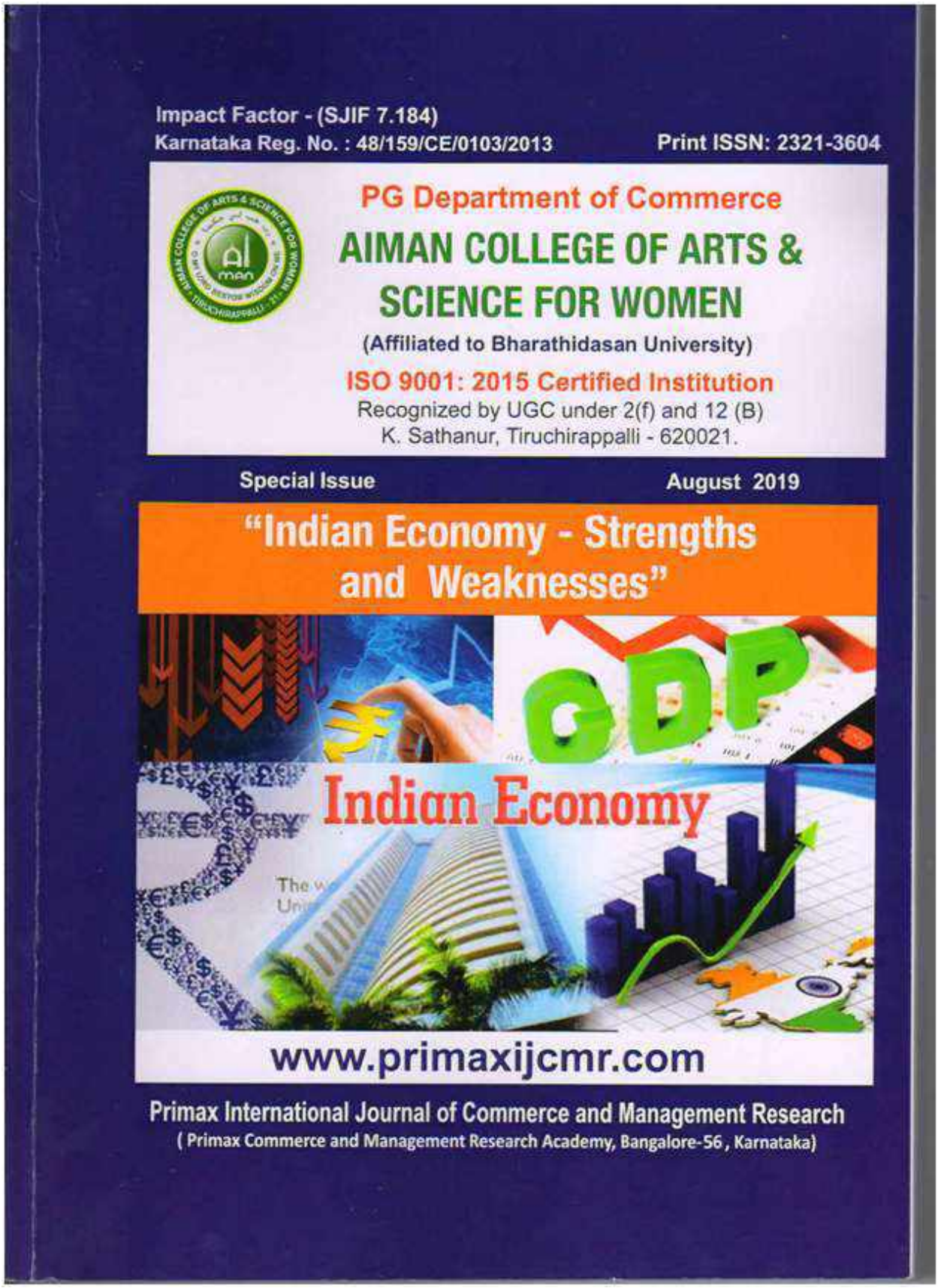
HUMAN RESOURCE DEVELOPMENT IN HIGHER EDUCATION: A CASE STUDY OF ACADEMIC ARRANGEMENT (CONTRACTUAL) TEACHERS IN JAMMU AND KASHMIR STATE 39
Dr. Showkat Khalil Wani

GROWTH AND INSTABILITY IN AREA, PRODUCTION AND PRODUCTIVITY OF TURMERIC IN SELECTED STATES IN INDIA 45
Dr. R. Ganesan

FEASIBILITY OF APPLICATION OF EXPERIENTIAL SYSTEM CONCEPTS FOR EXPERIENCE ECONOMY 57
[redacted]

DETERMINANTS OF CORPORATE RETAINED EARNINGS IN CEMENT INDUSTRY 71
[redacted]

3.3.2. Number of research papers per teacher in the Journals notified on UGC

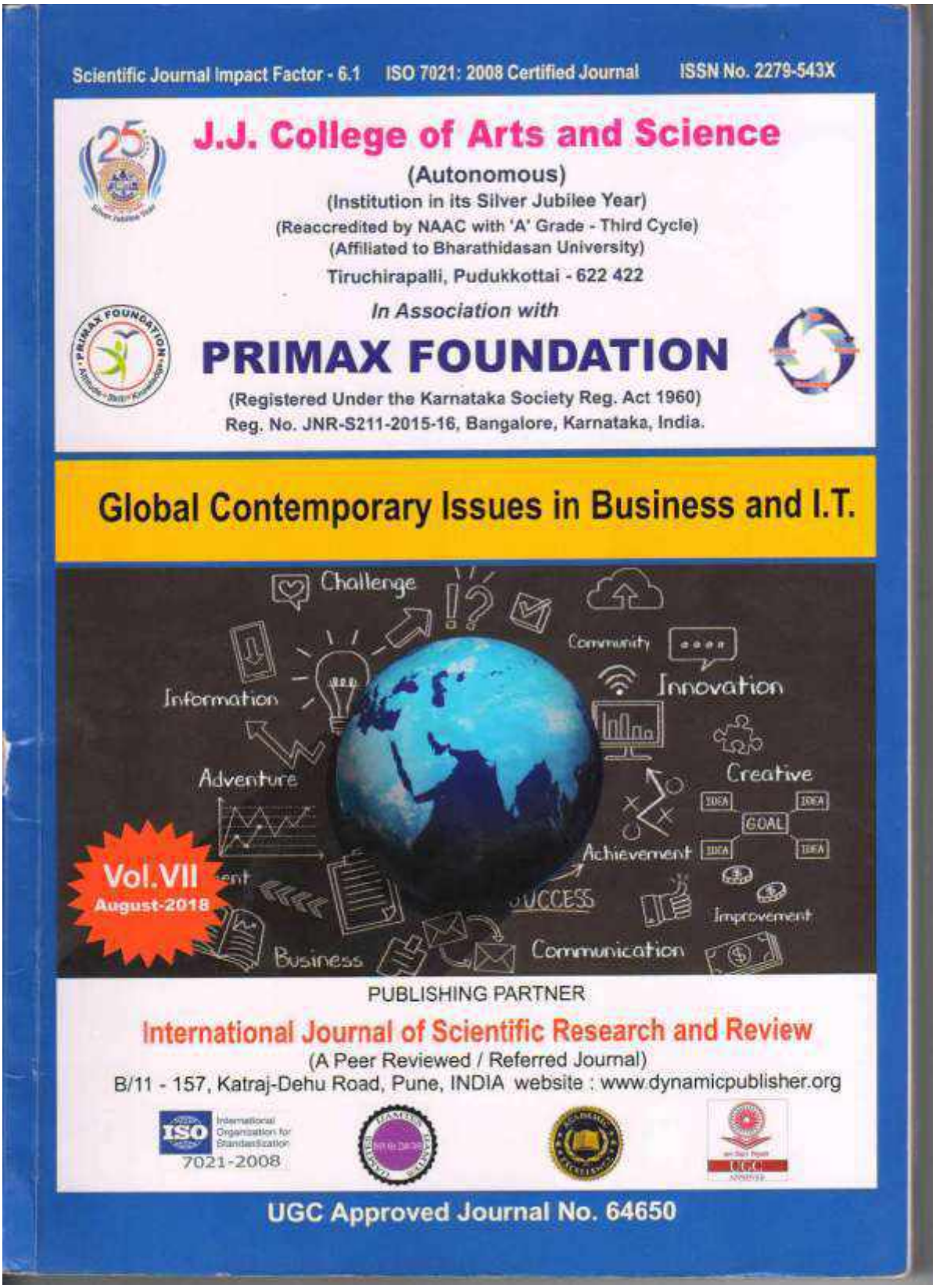


3.3.2. Number of research papers per teacher in the Journals notified on UGC

Contents

Sl.No.	Title of the Articles	Page No.
1.	The Impact of Climate Change on Agricultural Sector - A. Bhavani	1 - 4
2.	A Study on Effectiveness of Online Advertisement with Special Reference to Tiruchirappalli city - Dr. A. Khaleelur Rahman & A. Harini	5 - 8
3.	Performance of Pharmaceutical Industries in India- An Analysis - A. Jalaludeen & Dr. M. Marimuthu	9 - 12
4.	A Case Study of The Consumer Satisfaction of Dental Care Products - Dr. D. Elanchelian	13 - 16
5.	Determinants of Organisational Citizenship Behaviour - Dr. M.A. Shakila Banu & P. Thangamani	17 - 18
6.	A Study of Environmental Impact of Tourism Sectors in Kerala - Dr. G Pasupathi & Muhammed Juman. B K	19 - 25
7.	A Study on Customer Perception Towards the Investorsof Mutual Funds in Trichirapalli District. - Dr. B. Arthi & E. Kavitha	26 - 30
8.	Contribution of Indian Retail Industry to Indian Economy - Dr. D. Elanchelian	31 - 33
9.	Indian Industry – Global Perspective - Dr. I. Satheeskumar & Dr. P. Saritha	34 - 39
10.	Service Marketing by State Bank of India - An Overview - Dr. C. Palanichamy	40 - 43
11.	A Study on Financial Performance of Women Owned Business in Tiruchirappalli District - Dr. S. Subathra	44 - 53
12.	Hard Core Cartels - Increasing Threat for Competition - Chetan Dixit	54 - 57
13.	Marketing Problems of Groundnut Cultivators in Tamil Nadu - Dr. M. John Jacob	58 - 63
14.	Knowledge Management on Job Performance of Educational Institution - K. Prabavathy	64 - 67
15.	Analysis of Consumers' Satisfaction on Digital Wallet with Special Reference to Chennai City - M. Mohana Priya & Dr. Tamilarasi Mailachalam	68 - 71

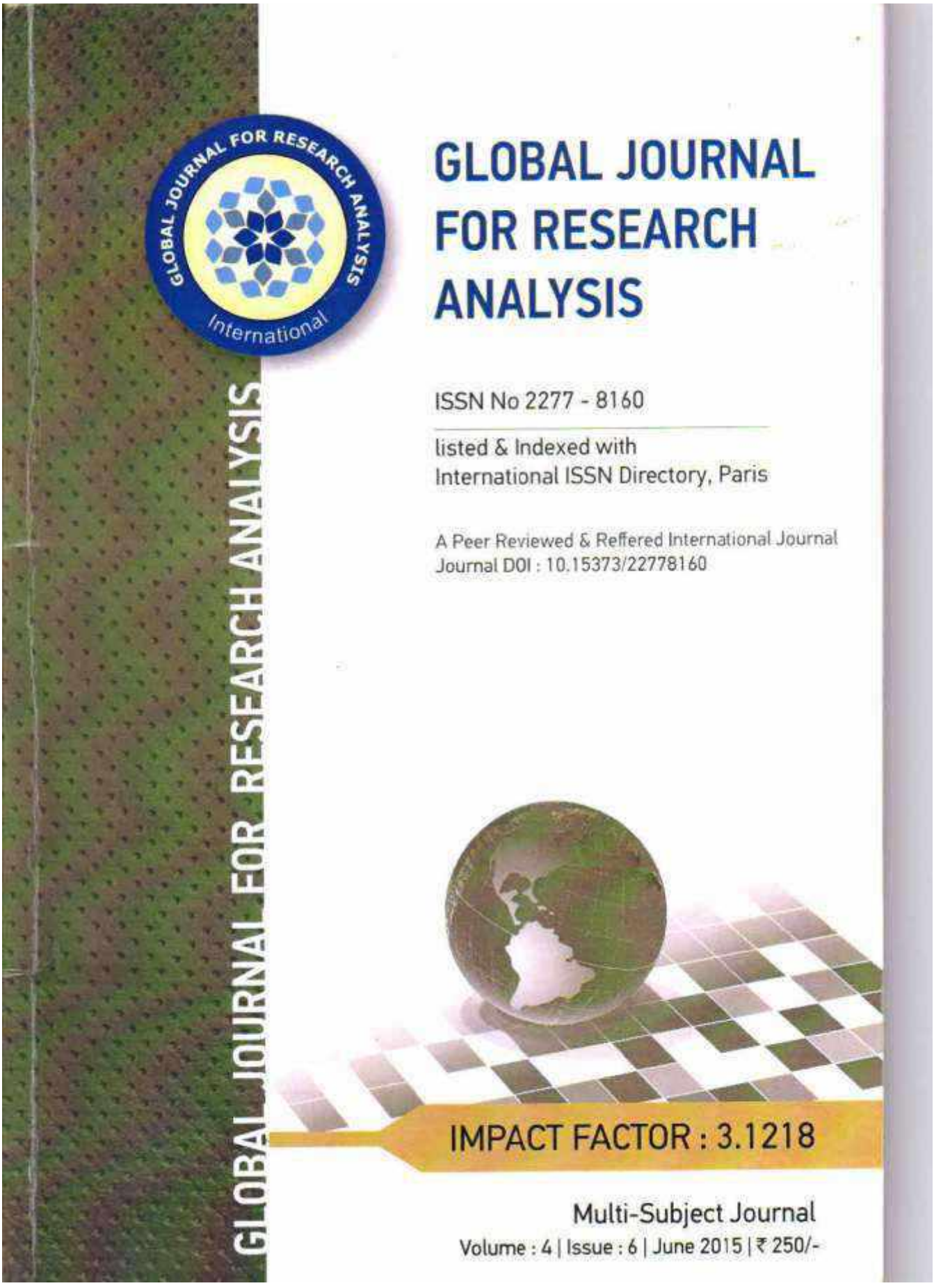
3.3.2. Number of research papers per teacher in the Journals notified on UGC



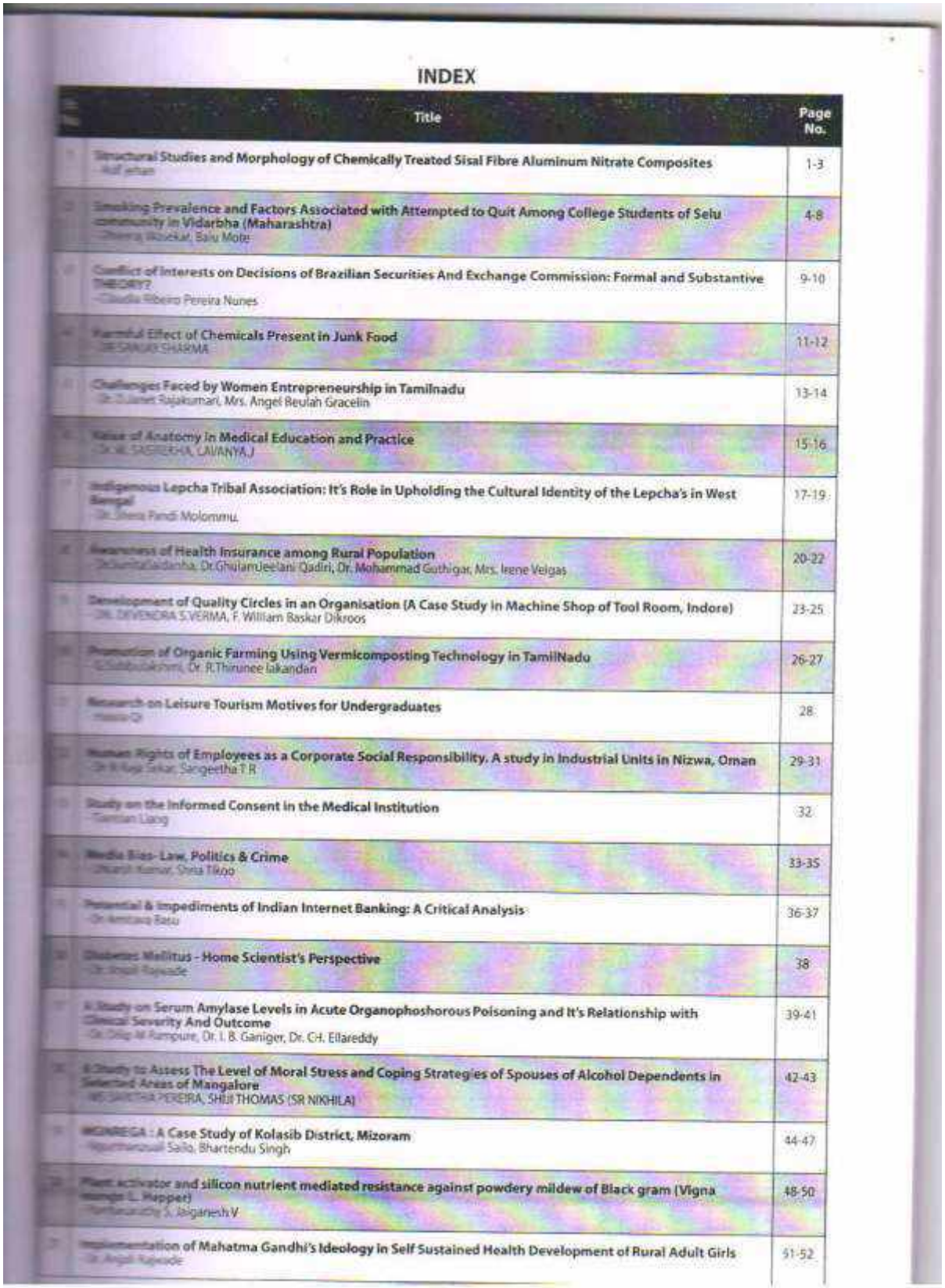
3.3.2. Number of research papers per teacher in the Journals notified on UGC

Sl.No.	Title of the Articles	Page No.
17	Competency Mapping in Transformative Human Resource - Dr. D. Vijayalakshmi & T. Gnana Sounthary	67 - 69
18	Service Quality of E-Governance Centres in Kovilpatti Taluk - R. Thanga Ganesh & Dr. K. Pushpa Veni	70 - 73
19	Impact of E-Business on Youth - Aisha Tabassum .M & Shilpa .R	74 - 76
20	Volatility and Price Discovery Process of Indian Spot and Futures Market for Non-Agricultural Commodities - Ramya R & Dr. Gnanaraj G	77 - 80
21	A Study on E-Commerce and its Applications - S. Ambika & Dr. L. Leo Franklin	81 - 85
22	A Comparitive Study on Satisfaction Level of M-Banking Services Provided by Public Sector Banks Versus Private Sector Banks among Customers in Bengaluru - Nandhitha .S & Yashika .A	86 - 89
23	E- Marketing and its Impact on Consumer Buying Behaviour – A Study with Special Reference to Tiruchirappalli District - J. Chandrasekaran & Dr. M. Raja	90 - 96
24	Understanding and Managing Better the Interest Rate Risk at Indian Banks - Dr. M. Sampath Kumar	97 - 101
25	A Study on Green Marketing and Green Product Development - Dr. V. Sellam	102 - 104
26	A Study on Consumer Preference of Selected FMCG Products in Trichy, Tamilnadu. - N. Shahin Nazeeba Banu & Dr. B. Arthi	105 - 108
27	A Critical Analysis on Agricultural Loan Performance of Primary Agriculture Co-Operative Society. - Dr. S. Elango & N. Muthukumar	109 - 112
28	Meltdown and Spectre: A Study on Side-Effects of out-of-order Execution on Modern Processorsto Read Arbitrary Kernel-Memory Locations - S. Kalidasan & N. Kanagaraj	113 - 115
29	Customer Satisfaction Towards Internet Shopping in Tiruchirpalli - M. G. Jeyalakshmi & Dr. B. Arthi	116 - 120
30	Awareness of B.Com., Students on E- Commerce - K. Labeeba & Dr. C. Subramanian	121 - 122
31	Online Rural Consumer Behaviour Towards Selected Consumers in Pudukkottai District – An Empirical Study - N. Nagarathinam & Dr. C. Subramanian	123 - 129
32	Organic Consumer Behaviour –An Analysis (Attitude formation and Buyer behavior) - J. Elanchezhian & Dr. K. Kalaichelvi	130 - 138
33	Effect of Occupational Stress and Work Life Imbalance on Employee Turnover - E. M. Gireesen & Dr. C. Subramanian	139 - 142

3.3.2. Number of research papers per teacher in the Journals notified on UGC



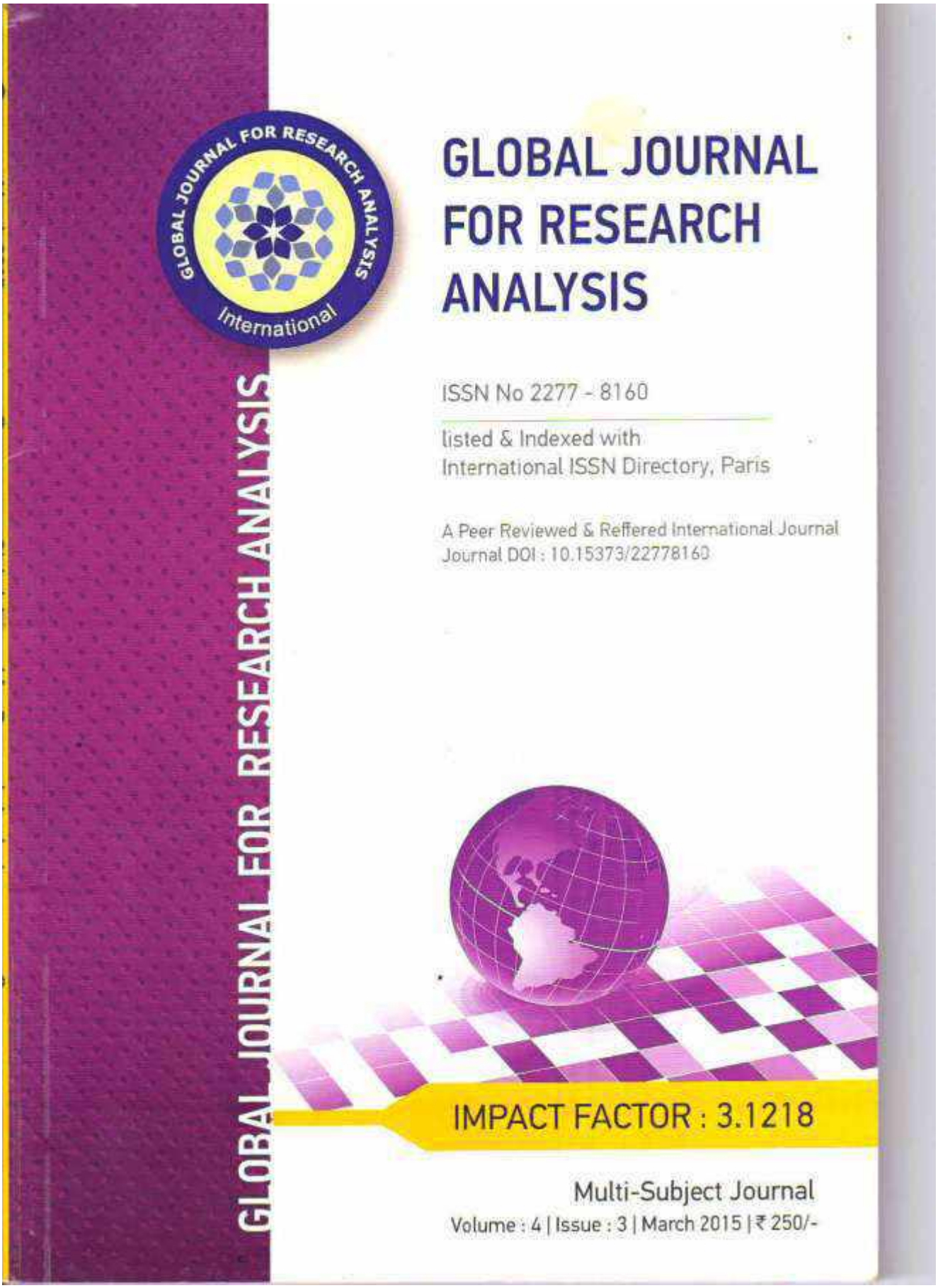
3.3.2. Number of research papers per teacher in the Journals notified on UGC



INDEX

Title	Page No.
Structural Studies and Morphology of Chemically Treated Sisal Fibre Aluminum Nitrate Composites	1-3
Smoking Prevalence and Factors Associated with Attempted to Quit Among College Students of Selu community in Vidarbha (Maharashtra)	4-8
Conflict of Interests on Decisions of Brazilian Securities And Exchange Commission: Formal and Substantive THEORY?	9-10
Harmful Effect of Chemicals Present in Junk Food	11-12
Challenges Faced by Women Entrepreneurship in Tamilnadu	13-14
Value of Anatomy in Medical Education and Practice	15-16
Indigenous Lepcha Tribal Association: It's Role in Upholding the Cultural Identity of the Lepcha's in West Bengal	17-19
Awareness of Health Insurance among Rural Population	20-22
Development of Quality Circles in an Organisation (A Case Study in Machine Shop of Tool Room, Indore)	23-25
Promotion of Organic Farming Using Vermicomposting Technology in TamilNadu	26-27
Research on Leisure Tourism Motives for Undergraduates	28
Human Rights of Employees as a Corporate Social Responsibility. A study in Industrial Units in Nizwa, Oman	29-31
Study on the Informed Consent in the Medical Institution	32
Media Bias- Law, Politics & Crime	33-35
Potential & Impediments of Indian Internet Banking: A Critical Analysis	36-37
Diabetes Mellitus - Home Scientist's Perspective	38
A Study on Serum Amylase Levels in Acute Organophoshorous Poisoning and It's Relationship with Clinical Severity And Outcome	39-41
A Study to Assess The Level of Moral Stress and Coping Strategies of Spouses of Alcohol Dependents in Selected Areas of Mangalore	42-43
MGNREGA : A Case Study of Kolasib District, Mizoram	44-47
Plant activator and silicon nutrient mediated resistance against powdery mildew of Black gram (Vigna mungo L. Hepper)	48-50
Implementation of Mahatma Gandhi's Ideology in Self Sustained Health Development of Rural Adult Girls	51-52

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume-4, Issue-3, March-2015 • ISSN No 2277 - 8160

Research Paper | Commerce

Women Entrepreneurship in India: Challenges and Problems

Dr. D.Janet Rajakumari — Associate Professor, Dept.of Commerce, Urumu Dhanalakshmi College. Tiruchirappalli

Ms. J.Angel Beulah Gracelin — Research Scholar, Dept. of Commerce, Urumu Dhanalakshmi College, Tiruchirappalli

ABSTRACT

Women entrepreneurship is now a days a major opportunity for the people who migrate in areas. On the country it is also a fact that the majority of women entrepreneurs are facing many problems due to not availability of primary amenities in areas of developing country like India. Lack of education, financial problems, insufficient technical and conceptual ability it is too difficult for the women entrepreneurs to establish industries in the areas. The environment in the family, society and support system is not conducive to encourage people to take up entrepreneurship as a career. It may be due to lack of awareness and knowledge of entrepreneurial opportunities. The young and well educated mostly tend to leave. As per circumstances, I people by force may be more self-sufficient than their urban counterparts, but the culture of women entrepreneurship tends to be weak. Continuous motivation is needed in case of employee who is sometime difficult for an entrepreneur to Problems in Women Entrepreneurship Entrepreneurs are playing very important role in the development of economy. They face various problems in day to day work. As the thorns are part of rose, similarly every flourishing business has its own kind of problems. Some of the major problems faced by women entrepreneurs are as under. This paper makes an attempt to find out the problems and challenges for the potentiality of women entrepreneurship. It also focuses on the major problems faced by women entrepreneurs especially in the fields of marketing of products, financial amenities and other primary amenities, i.e. availability of electricity, water supply, transport facilities and required energy etc. The changing global environment raises questions about the ability of traditional small-scale businesses in areas to share the potential benefits offered by the changing environments. The rapid (though decline) population growth, coupled with even faster urbanization, creates increasing demands. In India, populations in general grow about twice as fast as the overall total, and by 2020 they may exceed the size of populations. Such a major demographic trend challenges the capacities of some traditional small-scale businesses to cope with the increasing demands.

KEYWORDS :

Introduction

Entrepreneur is an economic agent who plays a vital role in the economic development of a country. Economic development of a country refers to steady growth in the income levels. This growth mainly depends on its entrepreneurs. The role of entrepreneurs depending on the material resources, industry climate and responsiveness of the political system it varies from economy to economy. Women entrepreneurship implies entrepreneurship emerging in areas is establishing industries in areas are called women entrepreneurship. Diversification of available resources such as entering for tourists, blacksmithing, carpentry, spinning, etc, as well as diversification in to activities other than those solely related to agricultural usage, for example, the use of other than such as water, woodlands, buildings available skills and local features all fit in to women entrepreneurship. Women entrepreneurship is a process which introduces new things in the economy. Industrialization helps to answer to poverty, unemployment and backwardness of Indian economy. Government in its successive five year plans has been assigning increasing importance and support for the promotion and development of women entrepreneurship. Balanced development is the need of hour and it is possible only if flourishes.

The problem is essentially lopsided development which is a development of one area at the cost of development of some other place, with concomitant associated problems of underdevelopment. For instance, we have seen unemployment or underemployment in the villages that has led to influx of population to the cities. What is needed is to create a situation so that the migration comes down. Migration per se is not always undesirable but it should be the minimum as far as employment is concerned. Rather the situation should be such that people should find it worthwhile to shift themselves from towns and cities to areas because of realization of better opportunities there. In other words, migration from areas should not only get checked but overpopulated towns and cities should also get decongested. If it is so, ways can always be found out. One is by forcibly stopping villagers from settling in the slums of towns and cities, making use of all powers to clear the slums so the villagers are forced to go back. But such practices have not achieved the desired results in the past. Apart from causing suffering to the poor people and adding to the expenditure of the government, social tensions and economic hardships created by the government officials and their staff in every demolition of slums is not desirable from a same government.

The following are the main objective:

1. To study the role of women entrepreneurship in economic development of the country.

2. To analyse the economic impact of micro business on empowerment women entrepreneurs.

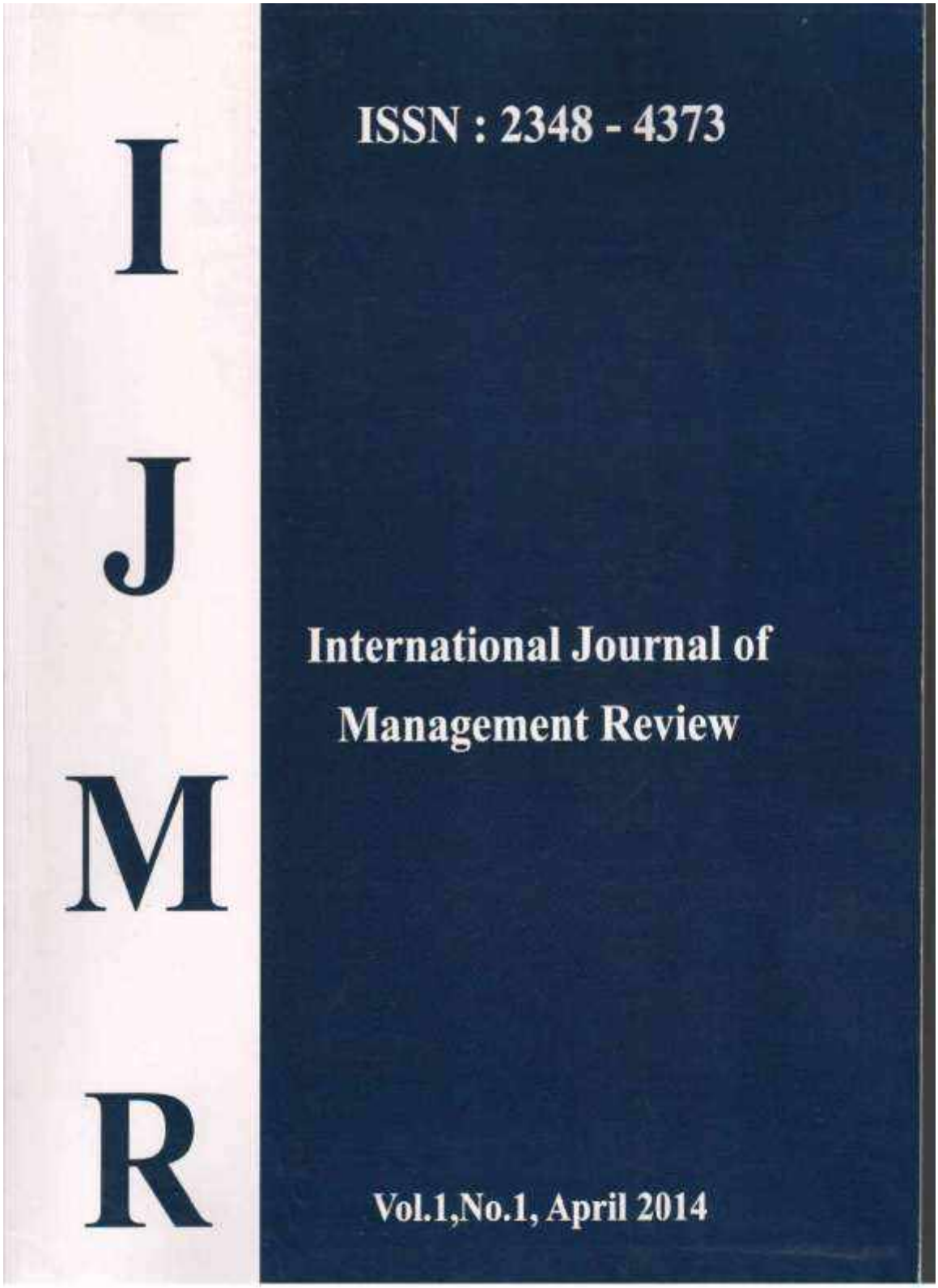
3. To study the problems and challenges of women entrepreneurs in their various dimensions.

Women Entrepreneurship in India

Who should be capable of making use of government policies and schemes for the betterment of people? Some individuals who happen to be local leaders and NGOs and who are committed to the cause of the people have been catalytic agents for development. Though their efforts need to be recognized yet much more needs to be done to reverse the direction of movement of people, i.e. to attract people in their areas. It means not only stopping the outflow of people but also attracting them back from the towns and cities where they had migrated. This is possible when young people consider areas as places of opportunities. Despite all the inadequacies in areas one should assess their strengths and build on them to make areas places of opportunities. This is much to do with the way one sees the reality of areas. The way a survivor or job seeker would see things would certainly be different from those like to do something worthwhile and are ready to go through a difficult path to achieve their goals. It isn't that there is a death of people with such a mindset. But with time change their minds and join the bandwagon of job seekers due to various complications.Enabling them to think positively, creatively and entrepreneurship purposefully is most of the development of areas. Young people with such perspective and with the help of rightly channelized efforts usher in an era of women entrepreneurship.

Optimum utilization of local resources in an entrepreneurial venture

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

39. **Impact of Merger & Acquisition on Shareholders' Wealth – with Reference to Tata Groups** ... 264
Mr. M. Jayakumar, Mr. K.R. Ramprakash & Dr. A. Ananth

40. **An Empirical Analysis on Semi Strong form Efficiency in Selected FMCG Companies Listed in NSE** ... 272
M. Saranya, Ms. S. Uma Priyadharshini & Dr. A. Ananth

41. **Management Challenges & Strategies for Competitiveness** ... 277
J. Malarvizhi

42. **A Study on Investors' Preferred Reasons for Bank and Post Office Investments** ... 280
S.G. Sureshrajan & Dr. R. Sritharan

43. **An Investment Behaviour of Retail Investors towards Mutual Fund with Reference to Thanjavur District** ... 284
Mr. S. Suresh & Dr. R. Kannappa

44. **Impact of HMIS in Government Hospitals of Tamil Nadu – A Theoretical Perspective** ... 291
Mrs. M. Saravanapriya

45. **A Study on Job Satisfaction of the Employees with Special Reference to Textile Industries at Trichy** ... 298
Dr. S. Sekar & D. Lancy

46. **Financial Evaluation of Non-Banking Financial Institutions: An Insight** ... 307
Mr. K. Bharath & Ms. S. Pallavi

47. **A Study on Labour Welfare Measures with Special Reference to Social Work Interventions in Madras Cements Limited at Alathiyur** ... 312
Dr. M. Vasantha & R. Santhi

48. **A Study on Training and Development of Employees in EID Parry (India) Limited, Pettavaithalai, Tiruchirappalli** ... 320
Ms. S. Sudha

49. **Efficient Market Hypothesis in Indian Capital Market** ... 325
P. Nithiyananthan, Dr. A. Ananth & Ms. S. Uma Priyadharshini

50. **Talent Management is King – Now and in Future** ... 329
Soumya M.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

INDIAN STREAMS RESEARCH JOURNAL
International Recognition Multidisciplinary Research Journal
Volume - 6 | Issue - 12 | January - 2017
4.1625(UIF) 2230-7850

A STUDY ON EMPLOYEE PERCEPTION OF HUMAN RESOURCE MANAGEMENT PRACTICES IN ANAND ENGINEERING (P) LTD

N. Saratha

Assistant Professor in Commerce, Shrimati Indira Gandhi College, Trichy, Tamil Nadu.

ABSTRACT:- The practice of HRM must be viewed through the prism of overall strategic goals for the organization instead of a standalone tint that takes a unit based or a micro approach. The idea here is to adopt a holistic perspective towards HRM ....

Editor - In - Chief - H. N. Jagtap

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Indian Streams Research Journal
International Recognized Multidisciplinary Research Journal
ISSN NO:-2230-7850 Impact Factor : 4.1625(UIF) Vol.- 6, Issue - 12, January-2017

Sr. No	Title And Name Of The Author (S)	Page No
1	Effect Of Gender On Self Esteem And Self Concept Among Interschool Players Bhosale Suresh Rajaram	1
2	Entrepreneurial Development In And Around Tiruchirappalli District - A Study Dr. S. Irudayaraj	6
3	A Study On Employee Perception Of Human Resource Management Practices In Anand Engineering (P) Ltd N. Saratha and Dr. M. Vasantha	12
4	A Study On Burden And Coping Among Caregivers Of Schizophrenia S. Geetha and Dr. M. V. Sudhakaran	17
5	Synthesis And Biological Evaluation Of Benzofused Thiazine Derivatives Shravan Y. Jadhav	30
6	भारत-चीन बदलते परराष्ट्र धोरण डॉ. संगमेश्वर निला	35

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

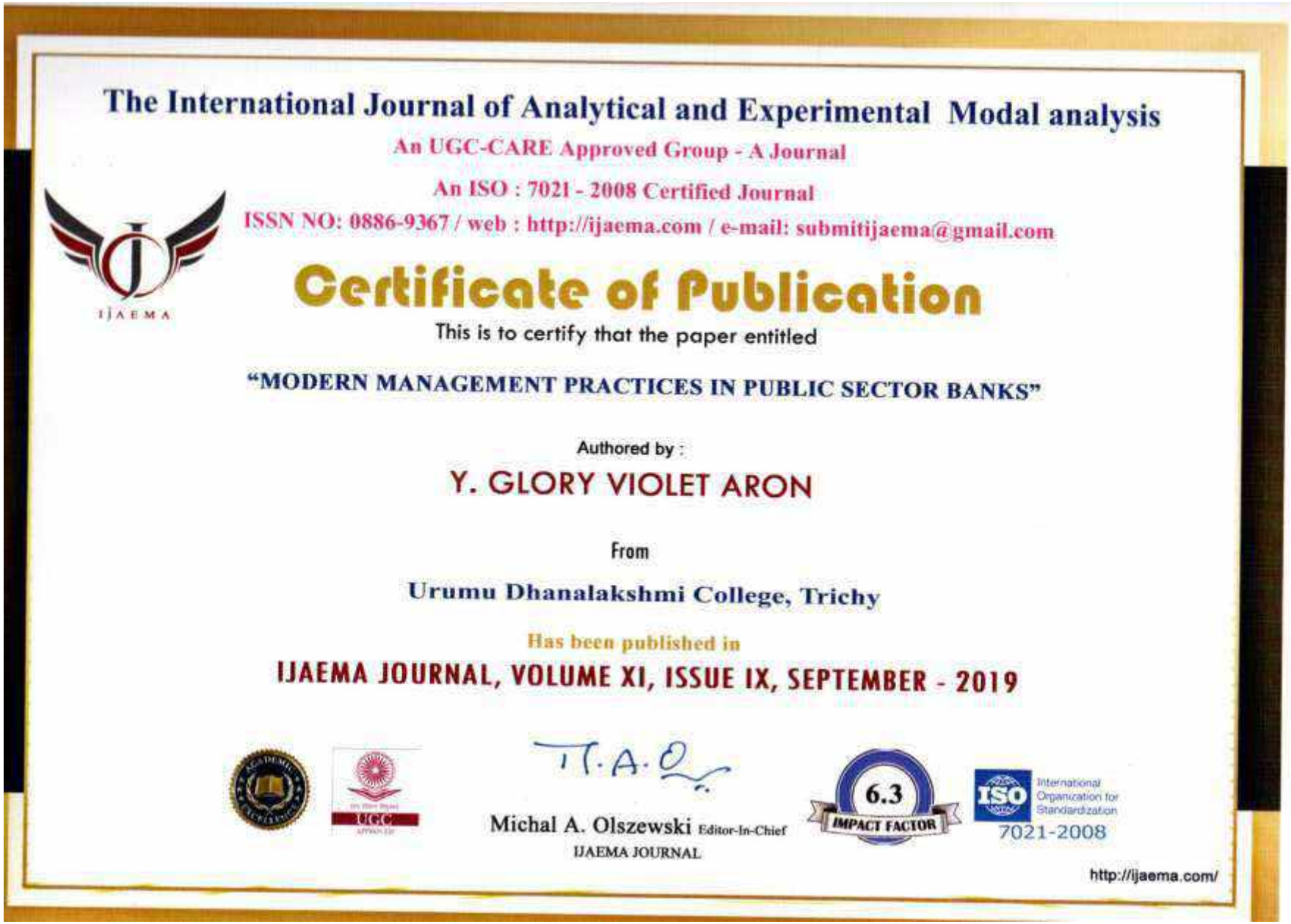
EMPEROR INTERNATIONAL JOURNAL OF FINANCE AND MANAGEMENT RESEARCH

[EIJFMR] ISSN: 2395- 5929

CONTENTS

Sl. No.	Title	Page No.
1	Impact of Personal Factors of Women Investors on Selection of Investment Avenues **C. Hariharan & Dr. M. Babu**	1-6
2	A Study on Financial Analysis of Select Paper Mills in India **Dr. E. Mubarak Ali & N. Mohamed Siddiq**	7-13
3	Corporate Climate in Private Sector Banks in Select Districts **Dr. K. Halimunnisa**	14-19
4	Factors Determinants of CRM Practices of Public Banks (A Study With Special Reference to Theni District Tamil Nadu) **S.Thowfeek Khan**	20-23
5	A Study on Capital Structure of Domestic and Multinational Companies **K.Maheswari & Dr.J. Gayathri**	24-30
6	Psychological Capital and Positive Emotions Among the Employees in Femina Shopping Hyper Mart **Dr. G. Rabia Jahani Farzana & G. A. Vaakshi**	31-37
7	A Study on Customer Satisfaction Towards Technology Services Provided By State Bank of India in Tiruchirappalli **Dr. M. Marimuthu & K. Indumathi Velmurugan**	38-44
8	An Empirical Investigation of Foreign Institutional Investor's Influence in Indian Equity Market **A. Leema Roseline**	45-51
9	A Study on Consumer Preference towards Mobile Wallets among Urban Population of Tiruchirappalli District **Dr. Pl. Senthil & S. Saleem**	52-59
10	Benefits of Tourism Economy in India **S.Yoganand**	60-66
11	Human Resource Development in Education Sector - Challenges Encountered by Self-Finance Colleges **Dr. J. Kavitha & M. Chidambaravadivu**	67-70
12	A Study on Consumer Behaviour of Cosmetic Products in Trichirappalli **Dr. M. Vasantha & B. Revathi**	71-77
13	Retail Sector in India: Opportunities and Challenges **Dr. G. Hadi Mohamed**	78-82
14	Impact of Advertisement on Consumer Behaviour towards Cosmetic Products **J. Kavitha & Dr. D. Kalaiselvan**	83-87

3.3.2. Number of research papers per teacher in the Journals notified on UGC



The International Journal of Analytical and Experimental Modal analysis

An UGC-CARE Approved Group - A Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0886-9367 / web : http://ijaema.com / e-mail: submitijaema@gmail.com

IJAEMA

Certificate of Publication

This is to certify that the paper entitled

"MODERN MANAGEMENT PRACTICES IN PUBLIC SECTOR BANKS"

Authored by :

Y. GLORY VIOLET ARON

From

Urumu Dhanalakshmi College, Trichy

Has been published in

IJAEMA JOURNAL, VOLUME XI, ISSUE IX, SEPTEMBER - 2019

UGC

Michal A. Olszewski Editor-In-Chief
IJAEMA JOURNAL

6.3 IMPACT FACTOR

ISO International Organization for Standardization 7021-2008

http://ijaema.com/

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

MODERN MANAGEMENT PRACTICES IN PUBLIC SECTOR BANKS

Y. GLORY VIOLET ARON
Ph.D Research Scholar, Department of Management, Urumu Dhanalakshmi College, Trichy

Dr. N. RAJAMANNAR
Assistant Professor & Research Advisor in Management,
PG & Research Department of Commerce, Urumu Dhanalakshmi College, Trichy

ABSTRACT

Indian Banking industry is functioning under the challenges thrown in by market economy. To survive in the highly competitive market, managers are being pressurized to improve quality, increase productivity, cut down cost and eliminate inefficiency. The collective efforts of the employer and the employees become important in this context which necessitates the need for human resource development practices. The success of the banks depends not only on the satisfaction level of the employees working in the banks. The level of satisfaction of the bank employees can be certified and improved by effective HR – practices adopted by the banks. In this regard, this paper made to attempt to verify the HR practices of selected banks.

Keywords: HR Practices, Employees, Satisfaction, Performance Appraisal, HRD and Grievance handling.

1. INTRODUCTION

Modern management practice is an important in development of organizational performance for the past several years especially in the banking industry. Modern Management practices are being increasingly treated as dependent rather than independent variables in the olden days, management professionals and researchers were involved in exploring how Modern Management practices affected employee performance, and overall bank performance of the banking industry. Modern Management Practices is important for banks because banking is a service industry. Management of people and its risk are two key challenges faced by the banks. A well-organized risk management may not be possible without efficient and skillful manpower. Human resources play a most important role in achieving innovative and high-quality product or services. If the employees of an organisation are satisfied with their jobs, the organisation can

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

A JOURNAL OF COMPOSITION THEORY ISSN : 0731-6755

CUSTOMER EXPERIENCE MANAGEMENT-AN EFFECTIVE TOOL TO THE CUSTOMERS HEART

Dr. S. Elango,
Associate Professor & Research Advisor Commerce,
PG Research Department of Commerce,
Urmu Dhanalakshmi College (Affiliated to Bharathidasan University),
Kattur, Trichy

S. Deepika
Ph.D. Research Scholar
PG Research Dpt of Commerce
Urmu Dhanalakshmi College (Affiliated to Bharathidasan University),
Kattur, Trichy

Abstract

In a competitive business climate, more business owners are looking at improvements in quality while reducing costs. However, sometimes they fail to Invest in creating innovative products to create a niche in the market, so they are in constant pressure to sell the same old product but with new experience to the customers. Companies have started Customer experience management departments in the organisation. The members in these team are responsible for creating methods to deliver the same product with different experience, they have to see things from the eyes of the customers. This paper talks about the various important aspects of the customer experience management and ways to enhance it.

KEYWORDS: *Customer, Experience Management, Customers Heart*

I. INTRODUCTION

We were all familiar with The concept of 'customer experience' we only dint notice. You only have to think of the 1992 film, Home Alone 2, starring Macaulay Culkin. In a sequence in movie, the New York Plaza Hotel advertised as 'New York's most exciting hotel experience.'

Two years later Carbone and Haeckel raised the profile of experience further when they spoke of it as 'the takeaway impression formed by people's face off with products, services, and businesses – a perception produced when humans consolidate sensory information.' However, from a commercial as opposed to academic point of view, it was only in the late 1990s through the work of Pine and Gilmour in their Harvard Business Review article 'Welcome to the Experience Economy' (1998) and book The Experience Economy that the movement for customer experiences really kicked off. Especially because this formalized customer experience as an economic principle in its own right 'as distinct from services as services are from goods' (Joe Pine).And the implications of that are: we must put how customers think and feel at the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRAR | E-ISSN 2348-1269, P- ISSN 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR)

An International Open Access Journal | Approved By ISSN and UGC

Ref No : IJRAR/Vol 6 / Issue 2/ 139

To,
R.Angayarkanni
Publication Date 2019-06-10 10:47:56

Subject: Publication of paper at International Journal of Research and Analytical Reviews (IJRAR).

Dear Author,

With Greetings we are informing you that your paper has been successfully published in the International Journal of Research and Analytical Reviews (IJRAR) - IJRAR (E-ISSN 2348-1269, P- ISSN 2349-5138). Thank you very much for your patience and cooperation during the submission of paper to final publication Process. It gives me immense pleasure to send the certificate of publication in our Journal. Following are the details regarding the published paper.

About IJRAR	: UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.75, E-ISSN 2348-1269, P- ISSN 2349-5138
UGC Approval	: Journal No: 43602
Registration ID	: IJRAR_206962
Paper ID	: IJRAR19K4139
Title of Paper	: RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMIL NADU
Impact Factor	: 5.75 (Calculate by Google Scholar) | License by Creative Common 3.0
DOI	:
Published in	: Volume 6 | Issue 2 | June 2019
Publication Date	: 2019-06-10 10:47:56
Page No	: 43-46
Published URL	: http://www.ijrar.org/viewfull.php?&p_id=IJRAR19K4139
Authors	: R.Angayarkanni, Dr.S.Elango

Thank you very much for publishing your article in IJRAR. We would appreciate if you continue your support and keep sharing your knowledge by writing for our journal IJRAR.

R.B.Joshi

Editor In Chief
International Journal of Research and Analytical Reviews - IJRAR
(E-ISSN 2348-1269, P- ISSN 2349-5138)

3.3.2. Number of research papers per teacher in the Journals notified on UGC

© 2019 IJRAR June 2019, Volume 6, Issue 2 www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMIL NADU

[1]R.ANGAYARKANNI [2]Dr.S.ELANGO
Assistant Professors in Commerce,
Urumu Dhanalakshmi College,
Tiruchirapalli – 19

ABSTRACT: The State of Tamil Nadu has always been in the forefront of economic growth in the country. The State has made impressive strides over the years to carve out a niche for itself in the fields of engineering, automobiles, textiles, leather, Information Technology, electronic hardware and hi-technology industries. The Gross State Domestic Product (GSDP) stood at 157.85 billion US dollars at constant prices in 2016-17. The industrial GSDP of Tamil Nadu grew at an impressive rate of 8.79% from the year 2011-12 to 2015-16 at constant prices higher than the National average of about 7.6%.

Keywords: Handloom Weavers, Schemes, NHDB, GSDP

1. INTRODUCTION

The textile products from Tamil Nadu handloom weavers are universally recognized for the excellent craftsmanship and their uniqueness are Kancheepuram Silk Sarees, Bhavani Carpet (Jamukalam), Madurai Sungadi Sarees, Coimbatore Kora Sarees, Paramakudi Sarees, Salem Silk Dhoties, Erode and Karur Home Textiles, Tirupur Knitwear Garments, etc. Tamil Nadu acts as the hub of textile exports from the country viz., Tirupur for Knitwear Garments, Coimbatore for Yarn, Karur for Home Textiles and Chennai for Woven Garment exports. The State accounts for 19% of the Nation's Textile output with a robust network of all the sub-sectors of the Textile industry. In Tamil Nadu handloom industry is the largest economic activity of the State after Agriculture.

Table - 1

Total number of handloom weavers in Tamilnadu

Total No. of Handlooms	1,54,509
Total No. of Handloom Weavers	3,52,321

2. RECENT SCHEMES FOR HANDLOOM WEAVERS IN TAMILNADU

A. NATIONAL HANDLOOM DEVELOPMENT PROGRAMME (NHDP)

National Handloom Development Programme (NHDP) was introduced in 2013-14, having various compoocents like consolidation of clusters, new cluster, new group approach projects, marketing incentive (MI), strengthening of handloom organization, handloom marketing assistance, handloom census, committed liabilities of Integrated Handlooms Development Scheme (IHDS), Marketing & Export Promotion Scheme (M&EPS) and Diversified Handlooms Development Scheme (DHDS) etc. for its implementation during XII Plan. Prior to 2013-14, Integrated Handlooms Development Scheme (IHDS) was under implementation. The scheme is follow need based approach for integrated and holistic development of handlooms and welfare of handloom weavers.

Cluster Development Programme

During the period 2012-13 to 2017-18, 58 Cluster Development Projects were sanctioned and a sum of Rs.24.32 crore was released, benefiting 25009 handloom weavers. Details of clusters sanctioned for Tamil Nadu are as follows:

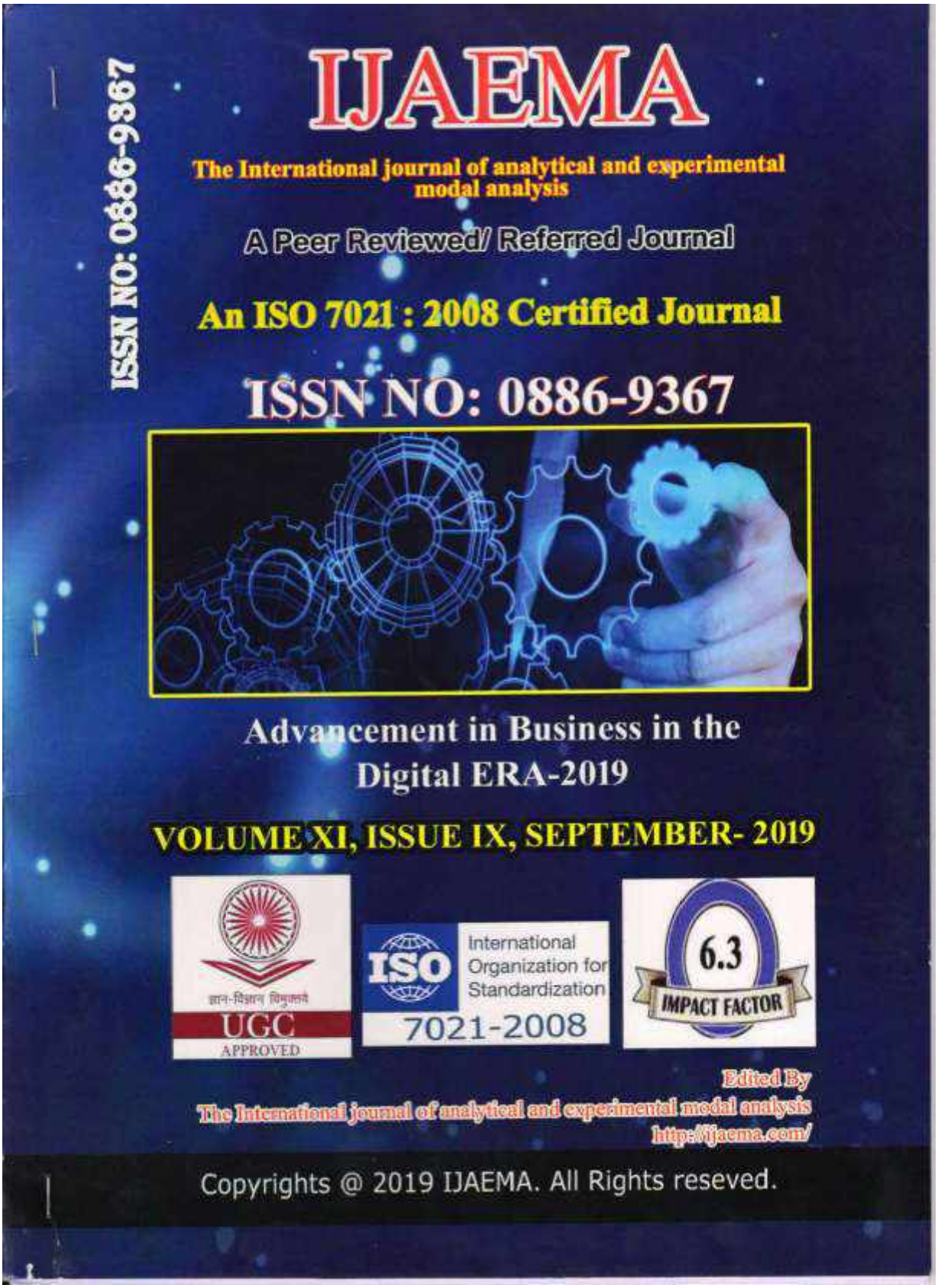
Table - 2

Clusters sanctioned for Tamilnadu

Year	No. of Clusters Sanctioned	Central Share	Amount released (in Crores)
2012-13	12	6.44	2.66
2013-14	-	-	11.08
2014-15	-	-	0.46
2015-16	-	-	0.25
2016-17	9	3.89	1.20
Total	**58**	**29.61**	**24.32**

Source: Statistics of Office of the Development Commissioner (Handlooms), Ministry of Textiles in India

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

REWARDS AND RECOGNITION – THE KEYS TO EMPLOYEE'S HEART

S. DEEPIKA,
Ph.D. Scholar, PG Research Department of Commerce,
Urmu Dhanalakshmi College, Kattur, Trichy – 620019

Dr. S. ELANGO,
Associate Professor & Research Advisor
PG Research Department of Commerce,
Urmu Dhanalakshmi College, Kattur, Trichy – 620019

ABSTRACT:

In a competitive business climate, employers are looking to enhance the business by using low cost and better quality method. Meanwhile a robust economy has resulted in tight job market. Even small businesses are trying to extract more from their employees. Employee reward and recognition programs are one of the successful techniques of motivating employees to better their attitude towards their work and company. Employee reward systems are specific programs which recognise and reward the good work done by any employee to bring betterment in his role. They are normally benefits that are extra from the salary but can also be monetary benefits. While previously considered the tool of large companies, it has now become common among the small companies to lure employees towards their companies. Retaining quality employees can be a challenge. The high turnover rate not only decreases morale but also the company takes a big hit. It's not easy to acquire and train new talents with the speed that they will be ready to take over roles. Appreciation and recognition are major factors that motivate employees to work harder and aim higher. By appreciating employees for their achievement we increase morale and motivate others to work better.

I. INTRODUCTION:

In a competitive business climate, employers are looking to enhance the business by using low cost and better quality method. Meanwhile a robust economy has resulted in tight job market. Even small businesses are trying to extract more from their employees. Employee reward and recognition programs are one of the successful techniques of motivating employees to better their attitude towards their work and company.

Employee reward systems are specific programs which recognise and reward the good work done by any employee to bring betterment in his role. They are normally benefits that are extra from the salary but can also be monetary benefits. While previously considered the tool of large companies, it has now become common among the small companies to lure employees towards their companies.

Retaining quality employees can be a challenge. The high turnover rate not only decreases morale but also the company takes a big hit. It's not easy to acquire and train new talents with the speed that they

3.3.2. Number of research papers per teacher in the Journals notified on UGC

OUR HERITAGE JOURNAL

certify to all that

Dr. N. RAJAMANNAR

has been awarded Certificate of Publication for research paper titled

Information Technology on Human Resource Function Transformation In Selected Automobile Companies

Published in Vol-68-Issue-1-January-2020 at OUR HERITAGE JOURNAL with ISSN: 0474-9030

UGC Care Approved International Indexed and Refereed Journal

Impact Factor 6.6

Editor, OUR HERITAGE JOURNAL

OUR HERITAGE JOURNAL

certify to all that

Dr. N. Rajamannar

has been awarded Certificate of Publication for research paper titled

Job Satisfaction of Employees In State Bank of India In Thanjavur District-Tamilnadu

Published in Vol-68-Issue-1-January-2020 at OUR HERITAGE JOURNAL with ISSN: 0474-9030

UGC Care Approved International Indexed and Refereed Journal

Impact Factor 6.6

Editor, OUR HERITAGE JOURNAL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

OUR HERITAGE journal

certify to all that

Dr. N. RAJAMANNAR

has been awarded Certificate of Publication for research paper titled

Cost Management Practices in Selected Steel Companies in BSE

UGC Care Approved, International Indexed and Refereed Journal

Published in Vol-68-Issue-1-January-2020

of OUR HERITAGE JOURNAL with ISSN: 0474-9030

Impact Factor 4.912 (SJIF)

Editor, OUR HERITAGE JOURNAL

Certificate of Publication

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | E-ISSN 2348-1269, P- ISSN 2349-5138

An International Open Access Journal

The Board of

International Journal of Research and Analytical Reviews (IJRAR)

is hereby awarding this certificate to

Dr.N.RAJAMANNAR

In recognition of the publication of the paper entitled

A STUDY ON PART OF THE COMMERCIAL BANKS IN INDIAN ECONOMY

Published in IJRAR (www.ijrar.org) ISSN UGC Approved & 5.75 Impact Factor

Volume 6 Issue 1 February 2019

PAPER ID : IJRAR19ZP013

Registration ID : 196654

EDITOR IN CHIEF

UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.75 Google Scholar

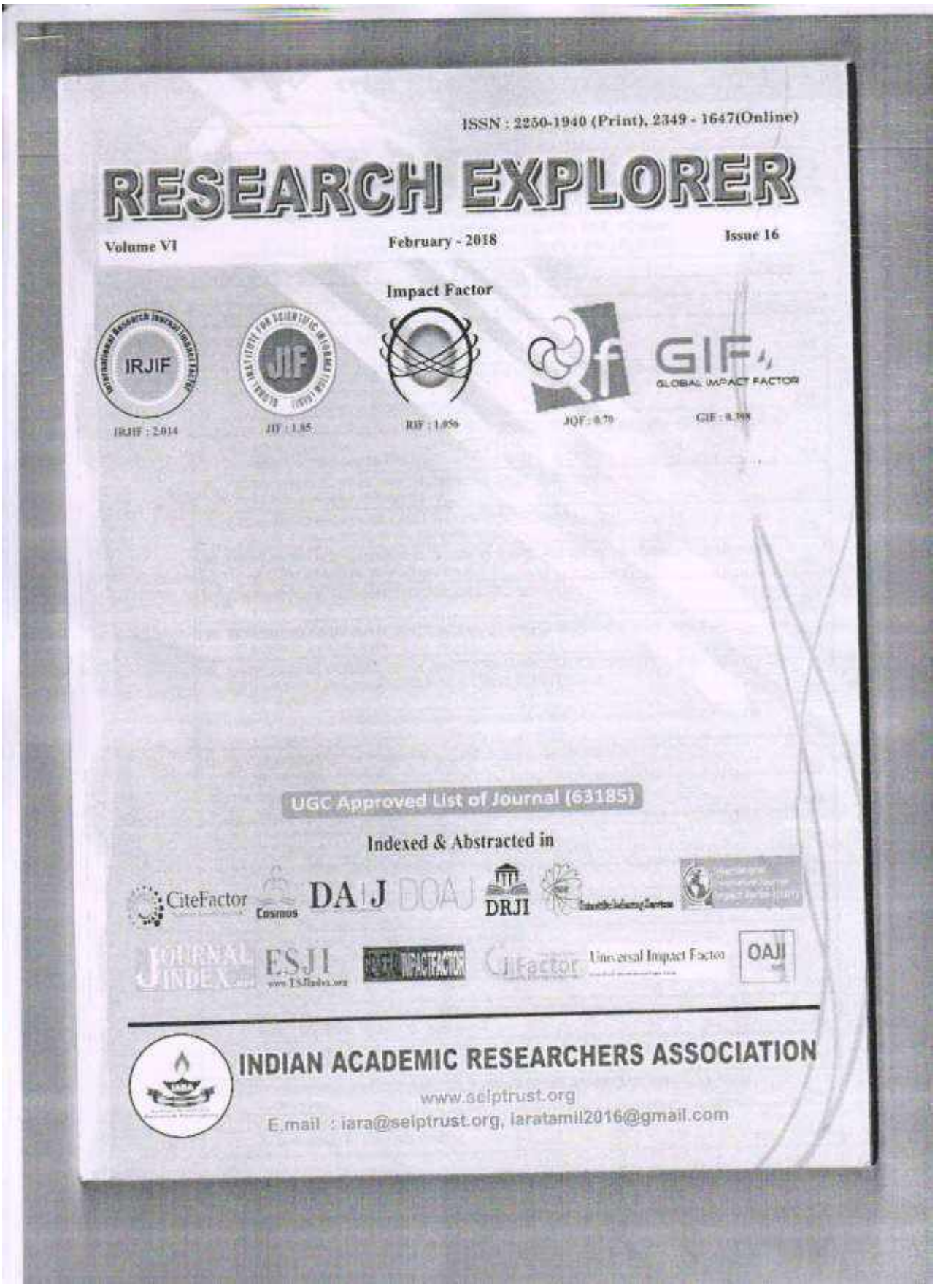
INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS | IJRAR

An International Open Access Journal | Approved by ISSN and UGC

Website: www.ijrar.org | Email id: editor@ijrar.org | ESTD: 2014

IJRAR | E-ISSN 2348-1269, P- ISSN 2349-5138

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH EXPLORER

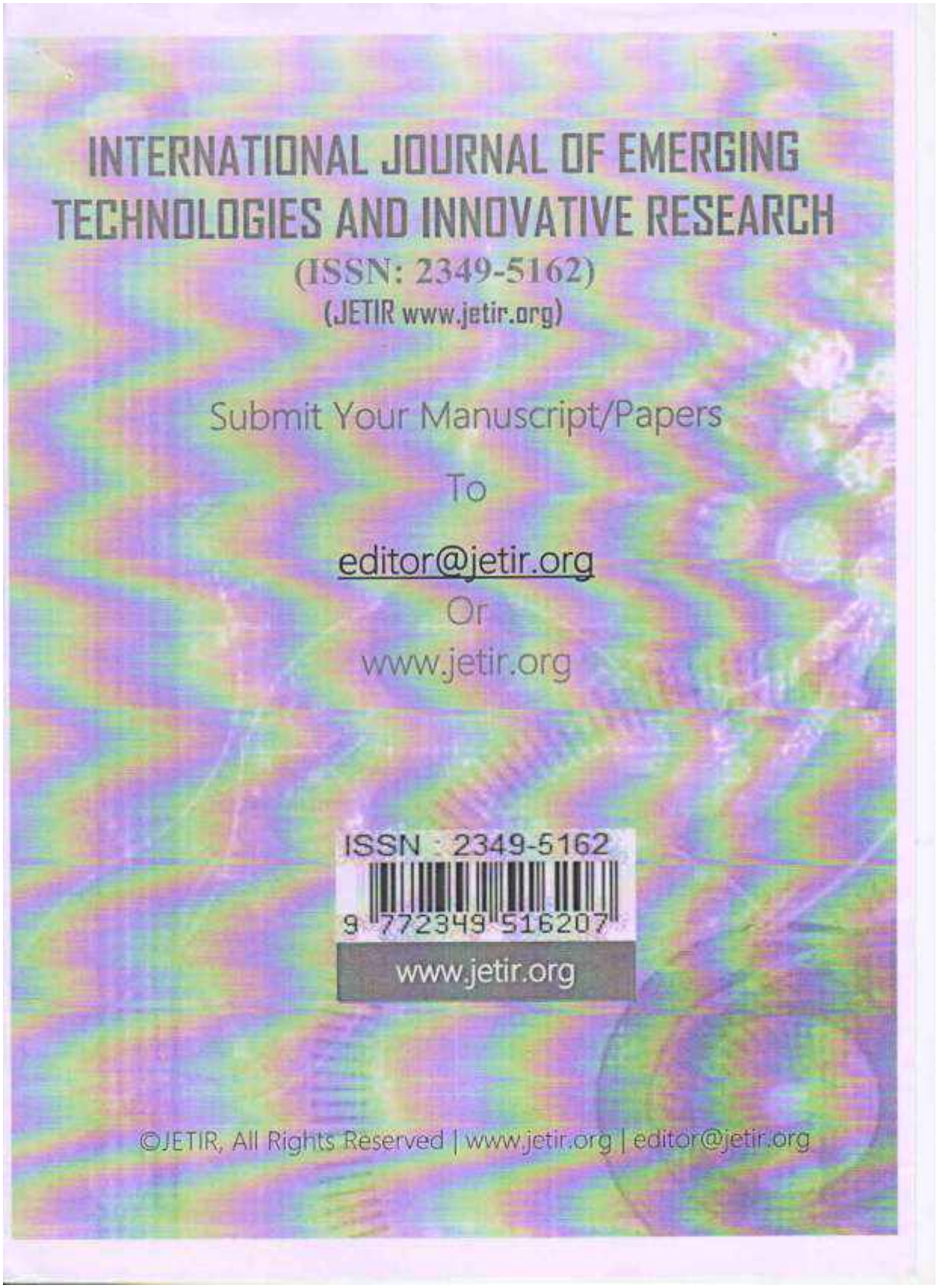
(A Refereed Bi Annual International Research Journal on Multidisciplinary)
ISSN : 2250-1940 (Print), 2349 - 1647 (Online)
Impact Factor : 2.014(IRJIF), 1.85(JIF), 1.056(RIF), 0.60(QF), 0.398(GIF), 2.62(NAAS)

Volume VI | February 2018 | Issue 16

CONTENT

S.No.	Title	Page no.
41.	CREATION OF EFFECTIVE SERVICE OF RETAIL STORES Dr. R.Jayanthi	235
42.	A STUDY ON DEEP DISCOUNT EFFECT ON GARMENTS SECTOR ON CONSUMER BEHAVIOR WITH SPECIAL REFERENCE TO THANJAVUR DISTRICT Dr. K.Kalaichelvi, J Elanchezhian	239
43.	ENTREPRENEURIAL MOTIVATION – A STUDY WITH SPECIAL REFERENCE TO RURAL ENTREPRENEURIAL MOTIVATIONS IN KERALA Asha A G, Dr.Thomas KV	244
44.	FACTORS AFFECTING GREEN MARKETING IN INDIA :A STUDY OF METRO CONSUMERS R. Bhuvaneswari, A.Rajpriya	248
45.	HYPERMARKETS: GROWTH AND CHALLENGES PERSPECTIVE IN INDIA Dr. N. Jamuna Rani, Mr. K. Duraimurugan	255
46.	INVESTORS PERCEPTION TOWARDS INVESTMENT IN SHARES A STUDY WITH REFERENCE TO KUMBAKONAM Dr.C.Sureshkumar, K. Kulanjiammal	260
47.	MAN POWER MANAGEMENT AND INTER PERSONAL SKILLS Jeseni. PV	267
48.	PERFORMANCE EVALUATION OF SELECT DISTRICT CENTRAL CO-OPERATIVE BANKS IN TAMIL NADU Aravind, Dr.M.Bharath	275
49.	SOCIAL MEDIA AN EFFECTIVE WAY OF ADVERTISING AMONG COLLEGE STUDENTS, A STUDY WITH SPECIAL REFERENCE TO SOCIAL MEDIA USERS IN MALAPPURAM DISTRICT,KERALA. Sumayya.M	282
50.	SOCIO ECONOMIC CONSTRAINS OF WOMEN INVESTORS ON INVESTMENT DECISION MAKING BEHAVIOUR C.Hariharan, Dr.M.Babu	290
51.	STRESS MANAGEMENT OF WOMEN BANKING EMPLOYEES IN TRICHY DISTRICT Dr.S.Elango, J.Sudha	299
52.	THE HUMAN RESOURCE CAREER PLANNING AND DEVELOPMENT A.Mary Stella, Dr.V.Mahesh	303
53.	VOLATILITY IN INDIAN FOREIGN EXCHANGE MARKET Dr.J.Sathya, A.Leema Roseline	308
54.	A STUDY ON COCONUT MARKETING ISSUES OF THE FARMERS WITH SPECIAL TO THANJAVUR DISTRICT Dr.T.Nedumaran	315
55.	A STUDY ON CUSTOMER SATISFACTION OF VODAFONE SERVICES IN VEDHARANYAM TOWN K.Nidhya	320
56.	A STUDY ON E-COMMERCE IN INDIA VIA ONLINE BANKING A. Marimuthu, Dr. G.Deivasigamani	326
57.	A STUDY ON JAPANESE CANDLESTICK PATTERNS ON INDIAN STOCK MARKET M.Rexlen Jerina	336
58.	A STUDY ON ONLINE SHOPPING AND CUSTOMER SATISFACTION IN TAMILNADU Amira Farvin M, Sathya G, Kalpana.A	340
59.	A STUDY ON PERFORMANCE APPRAISAL OF EMPLOYEES IN THANJAVUR SPINNING MILL LTD P.Shiny Liciya	346
60.	A STUDY ON STRESS LEVEL AMONG MEDICAL REPRESENTATIVES IN THANJAVUR CITY J. Bhuvana	355
61.	A STUDY ON VENTURE CAPITALIST'S FUNDING IN DIFFERENT SECTOR OF TAMILNADU K. Selvarani, K. Vijayalakshmi	358

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

FACILITIES AND SUPPORTS PROVIDED BY THE GOVERNMENT TO THE DEVELOPMENT OF THE INDIAN HANDLOOM SECTOR

[1]R.ANGAYARKANNI [2]Dr.S.ELANGO
Assistant Professors in Commerce,
Urumu Dhanalakshmi College,
Tiruchirapalli – 19

ABSTRACT: Textile sector is one of the largest source of employment generation in India, it employs over 4.5 crore people directly. The Government of India has formulated numerous policies and schemes, aiding financial security as well as social security to the handloom weavers and handicrafts. To promote e-marketing of handloom products, 21 e-commerce entities have been engaged for online marketing of handloom products. Handloom industry plays vital role to reduce poverty, increase employment, and enhance household income and consumption in the country. Government's efforts made handloom sector form a priceless part of the generational heritage and demonstrates the fruitfulness and multiplicity of our nation and the talent of the weavers.

Key words: Facilities, Textile, Handloom, e-marketing

1. INTRODUCTION

Indian Textile Industry is one of the largest industries in the world. Textile sector is also one of the largest source of employment generation in India, it employs over 4.5 crore people directly. India has the second largest manufacturing capacity globally. Abundant raw material, skilled manpower and lower cost of production are some of the key features that contribute to the success of Indian textile industry. The demand for textiles and garments in India comes from three major segments – household sector, non-household sector (institutional, industrial and technical) and export sector. Household sector consumes the largest share of textiles and garments in India (60%), followed by the non-household sector (21%), and then the exports sector (19%). To enable the effective supply of handlooms to the country, the Government of India has formulated numerous policies and schemes, aiding financial security as well as social security to the handloom weavers and handicrafts.

Key factors to promote Indian Textile Industry:

1. Innovative marketing strategies
2. Diversification of product
3. Enhancement of textile oriented technology
4. Quality awareness
5. Intensifying raw materials
6. Growth of productivity
7. Increase in exports
8. Financing arrangements
9. Creating employment opportunities
10. Human Resource Development

Government of India has also tuned the functions of the TRA (Textile Research Associations) to find new ways for promotion of Textile Industry in India. One of the principal targets of the government policy is to enhance the quality and production of cotton and man-made fibre. Ministry of Agriculture, Ministry of Textiles, cotton growing states are primarily responsible for implementing this target. Government also uses IT (Information & Technology) to establish a sound commercial network for the prosperity of textile industry. Government has adopted some effective policies for the right utilization of the manpower for the prosperity and development of the textile industry. Government of India is also trying to encourage talented Indian designers and technologists to work for Indian textile industry and accordingly Government is setting up venture capital fund in collaboration with financial establishments.

Major acts relating to Indian Textile Industry

1. Central Silk Board Act, 1948
2. The Textiles Committee Act, 1963
3. The Handlooms Act, 1985
4. Cotton Control Order, 1986
5. The Textile Undertakings Act, 1995

Government of India is earnestly trying to provide all the relevant facilities for the textile industry to utilize its full potential and achieve the target.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Indian Economy - Strengths and Weaknesses Print ISSN: 2321-3604

THE IMPACT OF HUMAN RESOURCE MANAGEMENT ON SERVICE EXCELLENCE OF HOSPITALS

M. Chitra devi[1] Dr.S. Elango[2]

Abstract

Human Resources Management (HRM) is a crucial management task in the field of hospital and otherservices sectors, where the client facing challenges because of staff's performance who have the involvementand the quality of performance and that human resource management The objectives and hypotheses of the study is framed on the above basic and the sample were selected on simple random sampling the sample of the study is 60 employees.A questionnaire was used to collect relevant data to the study. Statistical tools were used for analysis the data collected. Tools used for analyzing the data are ANOVA.The results of the study show thatthere is no significant variance observed between the demographic profileof the respondents and HR service excellence of hospital.

Keyword: *Human Resources Management, Service Excellence, Hospitals.*

Introduction

Human Resources Management (HRM) is a crucial management task in the field of hospitals and otherservices sectors, where the client plaster challenges because of staff's enactment that have the involvement and the quality of performance and that human resource management plays an dynamic and crucial role in the success of the reform of the health sector. Human resource management is afraid with the development of both persons and the organization in which they control. Human Resource Management, then, is promised not only in acquiring and developing the bents of individual workers, but also in implementing programs that enhance communication and cooperation among those individual workers in order to nurture organizational development. One of the main goals of Human Resource Management (HRM) is to enhance the performance of organizations.

Human resource is considered as the epicenter of the health care industry and believed that human resources play the most critical and significant role in achieving organizational goals and success. Human capital has been recognized as the organization's life blood, which needs to be developed continuously keeping pace with the development in all other areas of today's dynamic work environment. A knowledgeable worker, one that is both highly skilled in a particular occupation and also shows flexibility, is seen as the most vital human capital resources for the expansion of a county. In the emerging global market place, human capital will matter more to enterprises than physical capital, and human capabilities will determine the value of enterprise (ILO, 2000). In today's modern era, the quantity of employment cannot be divorced from its quality.

Competencies of Human Resources Management in Hospital Sector

Staffing: Ensures that the fitness system obtains a, adequate supply of human resources in all the essential occupational categories to meet its objectives, as financial resources permit. Comprises personnel from the labour market, as well as personnel that is needed but not offered in the labour market and who need to be trained by educational institutions.

Performance management: Its objective is to elevate the productivity and quality of human resource performance in the wellbeing services. It includes interventions for performance management as such ways of organizing the work, technology management, development of work teams, use of motivation systems and ways to evaluate this performance.

Labour relations and personnel administration: Ensures good management of work deals, remuneration systems, conditions for the social safety of workers which includes career appointments, incentive systems, relations between the employer and workers, working relationships – unions, collective bargaining and the mission for effective announcement modalities between administration and workers, as well as conducts to enable staff participation in key decisions that affect their act with the resulting benefit to the population.

Development and Training: Ensures that all human resources in a wellbeing system are properly qualified

[1]. Assistant Professor, Department of Commerce, M.I.E.T Arts and Science College, Trichy
[2]. Assistant Professor, PG & Research Department of Commerce, Urumu Dhanalakshmi College, Trichy

3.3.2. Number of research papers per teacher in the Journals notified on UGC

HUMAN RESOURCES PRACTICES OF PRIVATE HOSPITAL IN TRICHIRAPPALLI CITY SPECIAL REFERENCE TO TRAINING AND DEVELOPMENT PROGRAMME

M. CHITRA DEVI
Ph. D Research Scholar, PG & Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy

Dr. S. ELANGO
Assistant Professor, PG & Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy

ABSTRACT

Training programme was very important for the hospitals nurses because day to day variety of health issues and improvement in the health sector of science and technology like medical science meet the hospitals. Hospital nurses should obtain essential medical related training with the objectives of achieve job well again, improve their work related skill set, increase knowledge about the work and become aware of their future roles and farm duties related to the job. The head-in charge along with the quality of services given into the patients, such as surgery section, scanning, x-ray, laboratory, pharmacy, psychology, counseling and stores. Necessity is implicated in the training process in classify to improve the employee's performance in terms of value, effectiveness and truthfulness. For occurrence, well trained staff will not only provide excellence patient care nevertheless too handle serious situations in a better way, report least number of patient complaint, abide by the infection control protocol minimizing hospital acquired infection cases. This paper deals with the training and development programme of private hospitals in Trichirappalli City.

Key Words: Training programme, hospitals, satisfaction.

INTRODUCTION

The healthcare sector known as the medical industry or health economy is an aggregation and combination of sectors within the economic system that provides goods and services to treat patients with curative, preventive, rehabilitative, and palliative care. It includes the generation and commercialisation of goods and services' rendering themselves to maintaining and re-establishing health. The modern healthcare sector is classified into much industry and based on the interdisciplinary teams of trained professional and paraprofessionals to meet health wants of a person's and peoples. Training and development in the healthcare sector is an in progress process. The importance of an in progress education cannot be overvalued. Sustained education is essential, as the healthcare sector grow so does the area of the changed

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Human Resources Management Practice and Its Impact of Employees Job Satisfaction with Reference to Private Hospitals in Trichy City

M. Chitra devi,
Assistant Professor,
Department of Commerce,
M.I.E.T Arts and Science College,
Trichy, Tamil Nadu, India

Dr.S. Elango,
Assisstant Professor,
PG & Research Department of Commerce,
Urumu Dhanalakshmi College,
Trichy, Tamil Nadu, India

ABSTRACT

Health care sector is very fast growing in Indian cites new innovations of medicines, medical equipment and health care related machines. Ancient days India's health related problem solving traditional methods. Now impact of new technologies introduction in health care sector need of the very intelligent employees including medical and non-medical employees in hospitals. Employees are recruited, training other related to human resources practices enrichment of hospitals. In this paper analyzing human resources practice and its impact of employees job satisfaction of private hospitals in trichy city.

Key Words: Human resources management, Employees, Job satisfaction, Hospitals.

INTRODUCTION

Human Resource Management (HRM) practices in the health care sector talks for improving the excellence of services and patients satisfaction. The usage of variety of health care providers and better co-ordination of health services through inter disciplinary team work is required as a part of human resource management. Since all the health care is eventually delivered by people, effective human resource management will participate a critical role in the success of health care delivery mechanism in any country. Human resource management practices deal with the individual and team work. Hospitals are faces various human resources management challenges. Managing human resources is the true challenge for the hospital management. It is contributes to the creation of good organizational climate which characterize by the growth opportunities, proper distribution of work, reward and pleasant relationship. Excellence healthcare starts with the human resource management

3.3.2. Number of research papers per teacher in the Journals notified on UGC

PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

JOURNAL OF MANAGEMENT AND SCIENCE

Special Issue on
ADVANCED MANAGEMENT
Changes and Challenges in Knowledge Era

Issue No.3 Vol.3 **Feb 2018**

JAMAL INSTITUTE OF MANAGEMENT
Approved by AICTE and Ranked in 'A' category by AIMA, New Delhi
JAMAL MOHAMED COLLEGE (Autonomous)
College with Potential for Excellence
Re- accredited (3rd cycle) with 'A' Grade by NAAC
Affiliated to Bharathidasan University
Tiruchirappalli – 620 020, Tamil Nadu, INDIA

Guest Editors
Mr. S. DAWOOD ALI
Dr. U. SYED AKTHARSHA
Dr. PL. SENTHIL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management and Science, Special Issue 3, Vol. 3 - Feb-2018
ISSN 2250-1819 / e-ISSN 2249-1260

Sl.No.	Contents	Page No.
24	Stress Management in Working Employees for Private Bank *Dr. S.Elango , J.Sudha*	099-101
25	Empowering Excellence – Based on Psychological Empowerment, Job Satisfaction and Job Performance *Dr. G. SIVANESAN Mr. C. MERVYN JUDE SYLVESTE*	102-105
26	A Study on Leadership Practices and Organization Commitment in ERF Rubber Industry-Madurai. *Dr. A. Selvarani Ms. K. Vembu*	106-108
27	A Study on Employee Turnover Intention in Voltas Ltd, Chennai. *Dr. A. Selvarani Mrs. M. Chandra*	109-111
28	The Impact of Television Advertisement on Buying Decision in Consumer Durables Goods in Tiruchirappalli District *Dr. R. KHADER MOHIDEEN P. SARAVANAN*	112-115
29	A Study on Passengers" Satisfaction towards Bus Services *S.SASI*	116-122
30	Consumer Perception on Awareness and Effectiveness of Green Banking Techniques and Initiatives *Dr.I.LOURDES ANGELINE ABILAKSHA, K.U.NIVEDHITA,*	123-127
31	Store Loyalty –A Quotient of retail Service Quality Dimensions *S.Saravanakumar Dr. N. Rajasekar*	128-131
32	Cause Based Brand Strategy: Loving Non-Profiting for a Cause for Profiting *M. SABEERDEEN ARMAN SALIK.*	132-136
33	India's GST – An Administrative Perspective *Dr. K. KHAJA MOHIDEEN S. NOORUL AMEEN*	137-139
34	A Study on Passengers' Perception on Service Quality with Reference to Airlines in Tiruchirappalli Airport *Dr. R. KhaderMohideenS.AbdulRajak*	140-144
35	Growing Component and Behavioral Intention Towards F-Commerce *Dr. M.A. ShakilaBanu Christine Maria Drewitt*	145-147
36	A Study on Shared Vision in Tamilnadu Newsprint and Papers Limited (TNPL), Karur District ***Dr.G.SAIFUDEEN***	148-152

Readers may send popular articles of topical interest in English to the editor email address*(jms.tamilnadu@gmail.com)*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific Research and Review ISSN: 2279-543X

WORK LIFE BALANCE ISSUES OF WOMEN EMPLOYEES IN PUBLIC SECTOR

V. Sathya Rekha[1]

Dr. S. Elango[2]

Abstract

Individual perception of high Work life balance (WLB) and sense of well being among employees has become imperative for any organization in order to ensure enhanced performance efficiency, particularly in this era of highly competitive business environment. It is no wonder that the work life balance has attracted numerous research. This study attempts to identify work life issues of public sector employees.

Introduction

Women play a pivotal role in the overall progress of a country as they constitute half the human resources of a nation. But the wife still cooks and washes and runs the house. They are considered as super mom and wife (Barnett and Baruch, 1985). Times have changed. From the time the husband earned, and the wife stayed at home, to the time now when the husband earns and the wife earns too. This phenomenon gets accentuated for women, who in most societies are expected to play multiple roles, as caretakers at home and as professionals at work place. Although, over the years women in India have struggled to establish an identity and create a mark in the social as well as in the organizational platforms, but with educational institutions training more and more women to enter professional careers, have drastically changed the scenario.

Work Life Balance (WLB)

Work-life balance has emerged as a major theme during the last two decades, which witnessed a substantial intensification of work caused by economic uncertainty, organisational restructuring, and increase in business competition (Green, 2001; Millward et al., 2000). To respond to the new conditions, organisations demand higher performance and commitment from their employees, which is translated into expectations for working longer and for prioritising work over personal life (Perrons, 2003, pp. 68-72; Simpson, 2000; White et al., 2003).

Importance of Work Life Balance

Many women have begun to occupy higher position in their life. Hence work life balance is important. Today's career women are continuously challenged by the demands of full-time work and when the day is done at the office, they carry more of the responsibilities and commitments to home. Majority of the women are working 40- 45 hours per week and working women are struggling to achieve work'life balance. Women lives are a juggling act that included multiple responsibilities at work, heavy meeting schedules, business trips, on top of managing the daily routine responsibilities of life and home. Therefore everyone wants to achieve a balance between their work and family life.

Work/life balance (WLB) is an issue increasingly recognised as of strategic importance to organizations and of significance to employees. Our lives are characterized by a conflict between professional work and family lives, since ever-longer working hours seen to leave us with less time for our interests, family and leisure time in general. Many changes in the workplace and in employee demographics in the past decade have led to an increased concern for the boundary between employee work and non work lives (Hochschild 1997).

The Specific Objectives of the Study

Keeping this in view the study on work life balance of women employees in the public sector was proposed with the following objectives.

- To identify the issues faced by women employees in the management of their work life balance

Review of Concepts

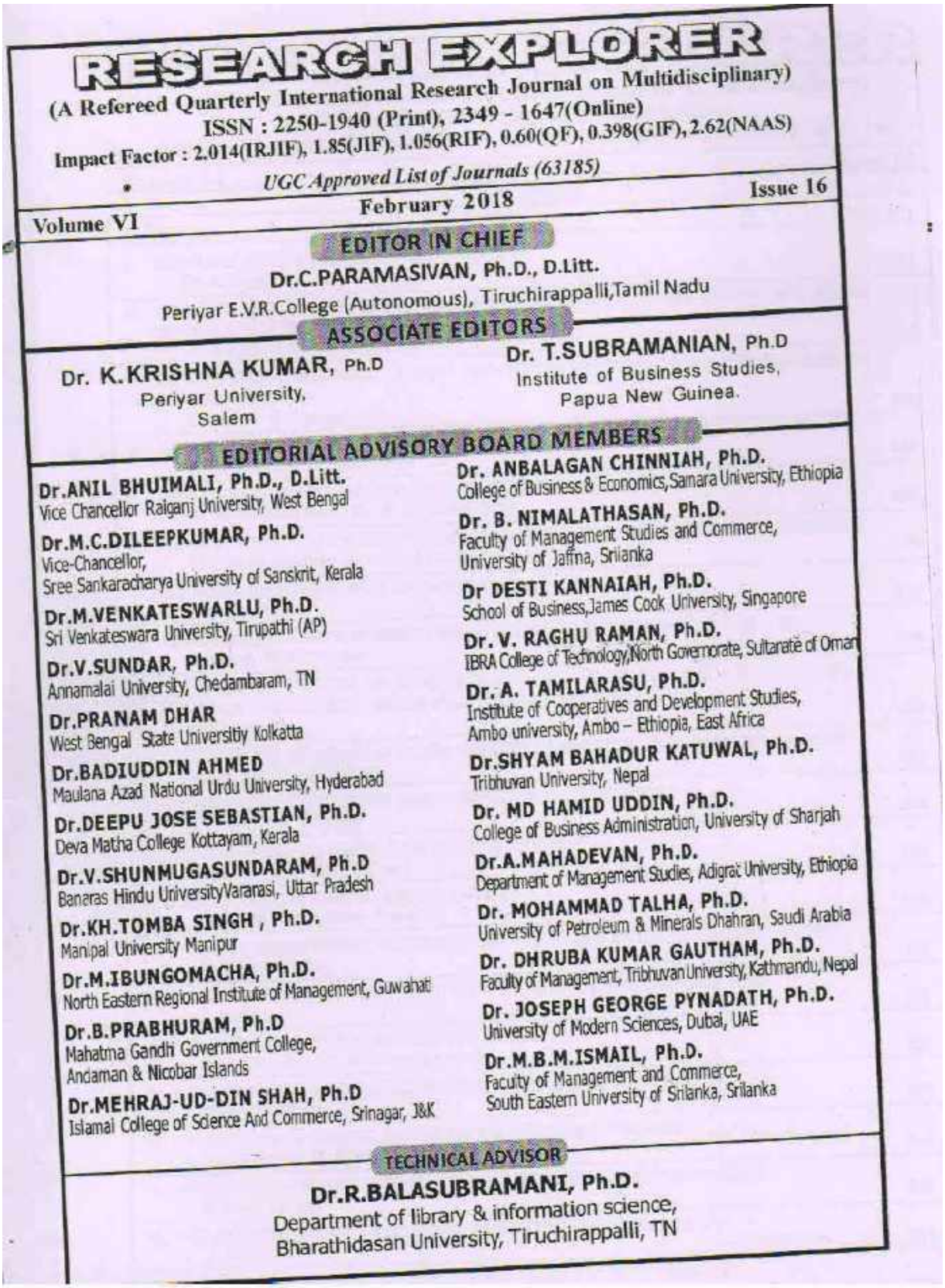
Work life balance

Clark (2000) defined work-family balance as satisfaction and good functioning at work and at home, with a minimum of role conflict. **Felstead *et al.*, (2002)** explained work-life balance as referring to the ability of individuals, regardless of age or gender, to find a rhythm that will allow them to combine their work with their non-work responsibilities, activities and aspirations. **Greenhaus *et al.*, (2003)** stated work-life balance as the extent to which an individual is equally engaged in

1. Research Scholar, Urumu Danalakshmi College, Tiruchirapalli, Tamil Nadu, India
2. Research advisor, Department of Commerce, Urumu Danalakshmi College, Tiruchirapalli, Tamil Nadu, India

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC



RESEARCH EXPLORER

(A Refereed Quarterly International Research Journal on Multidisciplinary)

ISSN : 2250-1940 (Print), 2349 - 1647(Online)

Impact Factor : 2.014(IRJIF), 1.85(JIF), 1.056(RIF), 0.60(QF), 0.398(GIF), 2.62(NAAS)

UGC Approved List of Journals (63185)

Volume VI | February 2018 | Issue 16

EDITOR IN CHIEF

Dr.C.PARAMASIVAN, Ph.D., D.Litt.
Periyar E.V.R.College (Autonomous), Tiruchirappalli,Tamil Nadu

ASSOCIATE EDITORS

Dr. K.KRISHNA KUMAR, Ph.D
Periyar University,
Salem

Dr. T.SUBRAMANIAN, Ph.D
Institute of Business Studies,
Papua New Guinea.

EDITORIAL ADVISORY BOARD MEMBERS

Dr.ANIL BHUIMALI, Ph.D., D.Litt.
Vice Chancellor Raiganj University, West Bengal

Dr.M.C.DILEEPKUMAR, Ph.D.
Vice-Chancellor,
Sree Sankaracharya University of Sanskrit, Kerala

Dr.M.VENKATESWARLU, Ph.D.
Sri Venkateswara University, Tirupathi (AP)

Dr.V.SUNDAR, Ph.D.
Annamalai University, Chedambaram, TN

Dr.PRANAM DHAR
West Bengal State Universitiy Kolkatta

Dr.BADIUDDIN AHMED
Maulana Azad National Urdu University, Hyderabad

Dr.DEEPU JOSE SEBASTIAN, Ph.D.
Deva Matha College Kottayam, Kerala

Dr.V.SHUNMUGASUNDARAM, Ph.D
Banaras Hindu UniversityVaranasi, Uttar Pradesh

Dr.KH.TOMBA SINGH , Ph.D.
Manipal University Manipur

Dr.M.IBUNGOMACHA, Ph.D.
North Eastern Regional Institute of Management, Guwahati

Dr.B.PRABHURAM, Ph.D
Mahatma Gandhi Government College,
Andaman & Nicobar Islands

Dr.MEHRAJ-UD-DIN SHAH, Ph.D
Islamal College of Science And Commerce, Srinagar, J&K

Dr. ANBALAGAN CHINNIAH, Ph.D.
College of Business & Economics,Samara University, Ethiopia

Dr. B. NIMALATHASAN, Ph.D.
Faculty of Management Studies and Commerce,
University of Jaffna, Srilanka

Dr DESTI KANNAIAH, Ph.D.
School of Business,James Cook University, Singapore

Dr. V. RAGHU RAMAN, Ph.D.
IBRA College of Technology,North Governorate, Sultarate of Oman

Dr. A. TAMILARASU, Ph.D.
Institute of Cooperatives and Development Studies,
Ambo university, Ambo – Ethiopia, East Africa

Dr.SHYAM BAHADUR KATUWAL, Ph.D.
Tribhuvan University, Nepal

Dr. MD HAMID UDDIN, Ph.D.
College of Business Administration, University of Sharjah

Dr.A.MAHADEVAN, Ph.D.
Department of Management Studies, Adigrat University, Ethiopia

Dr. MOHAMMAD TALHA, Ph.D.
University of Petroleum & Minerals Dhahran, Saudi Arabia

Dr. DHRUBA KUMAR GAUTHAM, Ph.D.
Faculty of Management, Tribhuvan University, Kathmandu, Nepal

Dr. JOSEPH GEORGE PYNADATH, Ph.D.
University of Modern Sciences, Dubai, UAE

Dr.M.B.M.ISMAIL, Ph.D.
Faculty of Management and Commerce,
South Eastern University of Srilanka, Srilanka

TECHNICAL ADVISOR

Dr.R.BALASUBRAMANI, Ph.D.
Department of library & information science,
Bharathidasan University, Tiruchirappalli, TN

3.3.2. Number of research papers per teacher in the Journals notified on UGC

PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

JOURNAL OF MANAGEMENT AND SCIENCE

Special Issue on

ADVANCED MANAGEMENT
Changes and Challenges in Knowledge Era

Issue No.3 Vol.3 Feb 2018

JAMAL INSTITUTE OF MANAGEMENT
Approved by AICTE and Ranked in 'A' category by AIMA, New Delhi
JAMAL MOHAMED COLLEGE (Autonomous)
College with Potential for Excellence
Re- accredited (3rd cycle) with 'A' Grade by NAAC
Affiliated to Bharathidasan University
Tiruchirappalli – 620 020, Tamil Nadu, INDIA

Guest Editors
Mr. S. DAWOOD ALI
Dr. U. SYED AKTHARSHA
Dr. P.L. SENTHIL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management and Science, Special Issue 3, Vol. 3 - Feb-2018
ISSN 2250-1819 / e-ISSN 2249-1260

Sl.No.	Contents	Page No.
24	Stress Management in Working Employees for Private Bank *Dr. S.Elango , J.Sudha*	099-101
25	Empowering Excellence – Based on Psychological Empowerment, Job Satisfaction and Job Performance *Dr. G. SIVANESAN Mr. C. MERVYN JUDE SYLVESTE*	102-105
26	A Study on Leadership Practices and Organization Commitment in ERF Rubber Industry-Madurai. *Dr. A. Selvarani Ms. K. Vembu*	106-108
27	A Study on Employee Turnover Intention in Voltas Ltd, Chennai. *Dr. A. Selvarani Mrs. M. Chandra*	109-111
28	The Impact of Television Advertisement on Buying Decision in Consumer Durables Goods in Tiruchirappalli District *Dr. R. KHADER MOHIDEEN P. SARAVANAN*	112-115
29	A Study on Passengers" Satisfaction towards Bus Services *S.SASI*	116-122
30	Consumer Perception on Awareness and Effectiveness of Green Banking Techniques and Initiatives *Dr.I.LOURDES ANGELINE ABILAKSHA, K.U.NIVEDHITA,*	123-127
31	Store Loyalty –A Quotient of retail Service Quality Dimensions *S.Saravanakumar Dr. N. Rajasekar*	128-131
32	Cause Based Brand Strategy: Loving Non-Profiting for a Cause for Profiting *M. SABEERDEEN ARMAN SALIK.*	132-136
33	India's GST – An Administrative Perspective *Dr. K. KHAJA MOHIDEEN S. NOORUL AMEEN*	137-139
34	A Study on Passengers' Perception on Service Quality with Reference to Airlines in Tiruchirappalli Airport *Dr. R. KhaderMohideenS.AbdulRajak*	140-144
35	Growing Component and Behavioral Intention Towards F-Commerce *Dr. M.A. ShakilaBanu Christine Maria Drewitt*	145-147
36	A Study on Shared Vision in Tamilnadu Newsprint and Papers Limited (TNPL), Karur District ***Dr.G.SAIFUDEEN***	148-152

Readers may send popular articles of topical interest in English to the editor email address*(ms.tamilnadu@gmail.com)*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Social Sciences
Vol. 8 Issue 10(1), October 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

A Study on Consumer's Brand Preference towards Two-Wheelers in Panruti

Dr.S.Elango*
Mrs. S. Baby Motcharakkini**

Abstract
India has become the world's largest market for two-wheelers and India's two-wheelers manufacturers rolled out 23.1 million units during 2017-18. The country has a vibrant domestic market. For example, in 2010-11, the sales volume of two-wheelers was 11,768,910 units. It increases to 20,192,672 units in 2017-18. In the market every year the two-wheelers populations are growing twice as many as that of the previous year. Two wheelers accounted for 81% of domestic demand in 2017-18. Hence, the demand for two-wheelers increases every year. Similarly, the preferences of the consumer are also changing from time to time. A number of companies are manufacturing two-wheelers of various kinds to suit every changing consumer's preference. Hence, if a company, manufacturing two-wheelers, wants to sustain in this competitive business environment, it should understand the behavior/preference of the consumers. The energetic environmental factors and ferocious competition is making it imperative to understand the dynamics of consumer long-lasting market. Market survival depends on consumer satisfaction. Consumer satisfaction depends on their perception and brand preference of a particular brand. 4 brands of two-wheelers are studied in the study area. The study would bring to light which two-wheelers brand is utmost preferred by the consumers and why chose a particular two-wheelers brand. Adopting a random sampling technique, 150 owners of the two-wheelers were chosen as respondents in Panruti. Hence, the researcher has made an attempt to find out the brand preference of the consumers for two-wheelers. The author has found that the product quality seems to be the first and fuel efficiency is the next factor in promoting the customer to go in for a particular brand.
Keywords: Consumer brand preference, Consumer, Consumer Satisfaction and Two wheelers.

Introduction
In the modern world, too many goods are racing too many consumers. There are winners and losers. The winners are those who carefully analyze need, identify opportunities and create value-rich offers for target consumer groups which the other competitors cannot match. In the past, marketers could understand consumers through the daily experience of selling to them. But the growth in the size of the firms and marketers has removed many marketing decision makers from direct contact with consumers. Increasingly managers have had to turn to consumer research for answers to the question such as "What do the consumers buy". The company that understands how consumers will respond to different product features, prices and advertising appeals and so on will have an enormous advantage over its competitors. From this, one can understand the importance of

* Dr.S.Elango, Asst. Professor of Commerce, UrumuDhanalakshmi College, Trichy
** Mrs. S. Baby Motcharakkini, Asst. Professor of Commerce, St. Joseph's College of Arts & Science (Autonomous), Cuddalore-1

3.3.2. Number of research papers per teacher in the Journals notified on UGC

© 2019 JETIR January 2019, Volume 6, Issue 1 www.jetir.org (ISSN-2349-5162)

WORK-LIFE BALANCE AMONG EMPLOYEES IN A PRIVATE SOFTWARE FIRM

[1]V.SATHYAREKHA [2]Dr.S.ELANGO
[1]Research Scholar [2]Asst. Professor
PG and Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy – 620019, Tamilnadu.

Everyone have a mission or a purpose to their life. Everyone can perform better when their thoughts, feelings, emotions, goals and values are in balance. Balance in life between work and personal life is very important. Without balance, eventually burn out, employees negatively affecting performance at work. Work-life balance involves juggling workplace stress with the daily pressures of family, friends, and self. Modern employees demand greater control over their lives and a bigger say in the structure of their job. The aim of this article is to understand why work life balance is important to everyone and to explore the meaning of ''balance" in the context of the study of work life balance. The main objective of the study is to understand the demographic variables and to evaluate the effectiveness of work-life balance. It makes understood that everyone have a mission or a purpose to their life. Work-life balance is something, which is important for both the employees and the employer. When an employer helps the employee to create the balance between personal life and professional life, it creates a positive image on the employer. This paper sheds on light that the factors involved in Work Life Balance and it tries to suggest measure to improve work life balance.

Key Words: Work Life Balance, Employer, Demographic Variables and Employees.

1.INTRODUCTION

Work–life balance is the term used to "describe the balance that an individual needs between time allocated for work and other aspects of life". When an individual maintains a balance between his personal and professional life, the phenomenon is known as Work-Life Balance. It is very important and is worth to maintain such a balance between ones personal and work life. There are lots of factors that will affect this balance and it is not going to be same for everyone. It will vary from person to person and from profession to profession. For example, jobs that are stressful in nature will affect the work-life balance of an individual more when compared to the jobs that are less stressful. When an individual is not able to strike a balance between the personal and professional life, there arises lot of consequences. The effects can be in the form of physical health deterioration or at the extreme, it may also affect the mental health of a person. This in turn affect the productivity of the organization as when the physical health of an employee is affected, this will lead to absenteeism , lack of concentration, lack of enthusiasm etc., ". There are four basic components of work life balance and they are self-Management, Time management, stress management and change management. One has to focus on all these four components to achieve effective work-life balance.

2. OBJECTIVES

The main objectives of the study is to understand the demographic variables and to evaluate the effectiveness of work-life balance. In addition, this study tries to suggest measure to improve work life balance.

3. RESEARCH METHODOLOGY

Research Design: A descriptive research design was adopted for this study. Descriptive research is one where it describes the characteristics of the population.

Sampling: Stratified random sampling technique was used and the data was collected from 153 employees working in a private software firm.

Period of study: The period of study was four months. A well-designed questionnaire was used as the instrument for the study and the results of reliability test is as follows:

Cronbach's Alpha

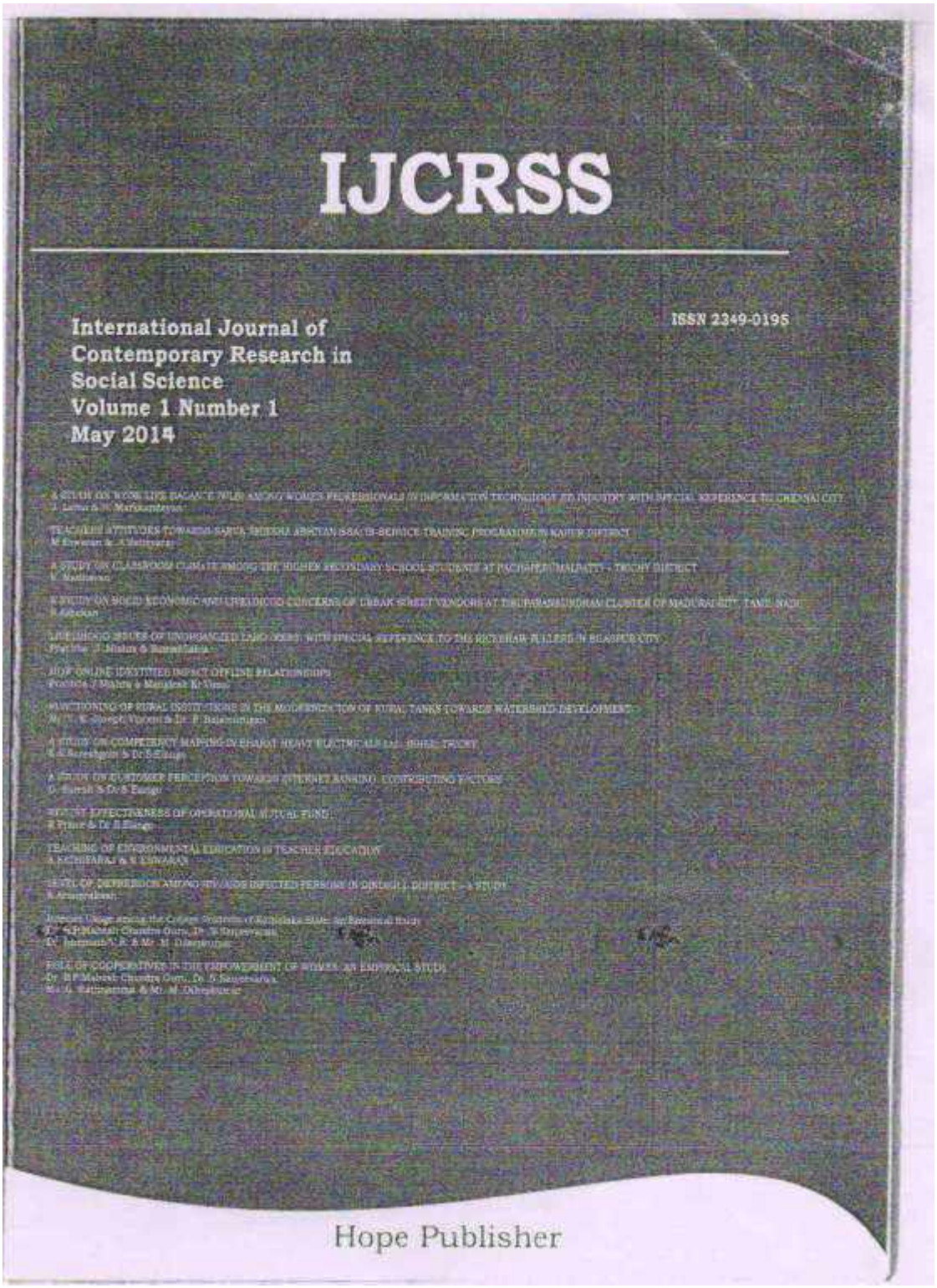
Table – 1
Reliability of the data

Reliability Statistics	
Cronbach's Alpha	No. of Items
.881	22

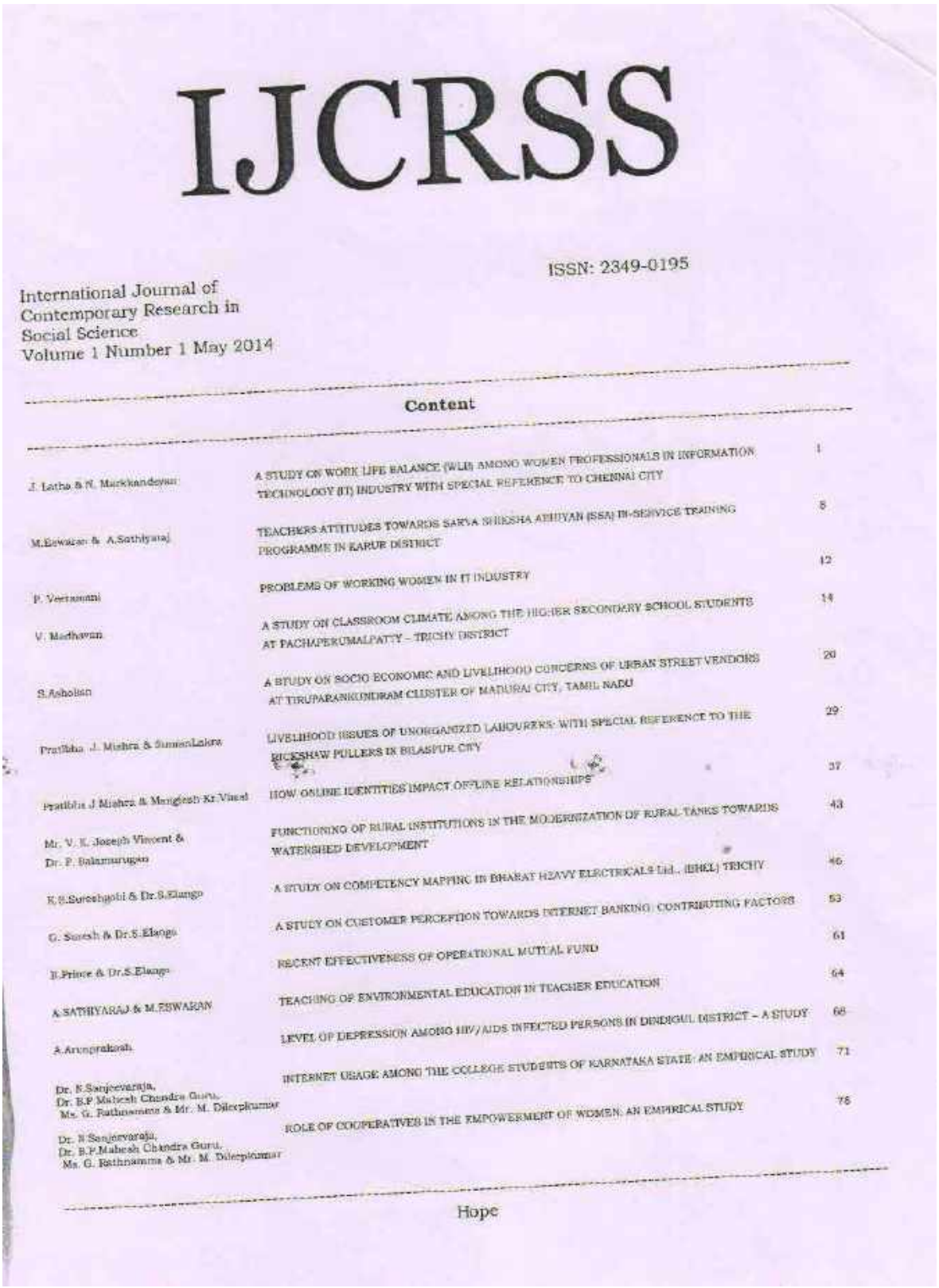
Source: Output Generated from SPSS 21

A pilot study was carried out to test the reliability and Cronbach's α was calculated based on data collected from 22 employees in the software firm for the purpose of the pilot study.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJCRSS

ISSN: 2349-0195

International Journal of
Contemporary Research in
Social Science
Volume 1 Number 1 May 2014

Content

J. Latha & N. Markkandeyan	A STUDY ON WORK LIFE BALANCE (WLB) AMONG WOMEN PROFESSIONALS IN INFORMATION TECHNOLOGY (IT) INDUSTRY WITH SPECIAL REFERENCE TO CHENNAI CITY	1
M.Eswaran & A.Sathiyaraj	TEACHERS ATTITUDES TOWARDS SARVA SHIKSHA ABHIYAN (SSA) IN-SERVICE TRAINING PROGRAMME IN KARUR DISTRICT	8
P. Veeramani	PROBLEMS OF WORKING WOMEN IN IT INDUSTRY	12
V. Madhavan	A STUDY ON CLASSROOM CLIMATE AMONG THE HIGHER SECONDARY SCHOOL STUDENTS AT PACHAPERUMALPATTY – TRICHY DISTRICT	14
S.Asholsin	A STUDY ON SOCIO ECONOMIC AND LIVELIHOOD CONCERNS OF URBAN STREET VENDORS AT TIRUPARANKUNDRAM CLUSTER OF MADURAI CITY, TAMIL NADU	20
Pratibha. J. Mishra & SumanLakra	LIVELIHOOD ISSUES OF UNORGANIZED LABOURERS: WITH SPECIAL REFERENCE TO THE RICKSHAW PULLERS IN BILASPUR CITY	29
Pratibha J Mishra & Manglesh Kr.Vimal	HOW ONLINE IDENTITIES IMPACT OFFLINE RELATIONSHIPS	37
Mr. V. K. Joseph Vincent & Dr. P. Balamurugan	FUNCTIONING OF RURAL INSTITUTIONS IN THE MODERNIZATION OF RURAL TANKS TOWARDS WATERSHED DEVELOPMENT	43
K.S.Sureshjothi & Dr.S.Elango	A STUDY ON COMPETENCY MAPPING IN BHARAT HEAVY ELECTRICALS Ltd., (BHEL) TRICHY	46
G. Suresh & Dr.S.Elango	A STUDY ON CUSTOMER PERCEPTION TOWARDS INTERNET BANKING: CONTRIBUTING FACTORS	53
E.Prince & Dr.S.Elango	RECENT EFFECTIVENESS OF OPERATIONAL MUTUAL FUND	61
A.SATHIYARAJ & M.ESWARAN	TEACHING OF ENVIRONMENTAL EDUCATION IN TEACHER EDUCATION	64
A.Arunprakash	LEVEL OF DEPRESSION AMONG HIV/AIDS INFECTED PERSONS IN DINDIGUL DISTRICT – A STUDY	68
Dr. S.Sanjeevaraja, Dr. B.P.Mahesh Chandra Guru, Ms. G. Rathnamma & Mr. M. Dileepkumar	INTERNET USAGE AMONG THE COLLEGE STUDENTS OF KARNATAKA STATE: AN EMPIRICAL STUDY	71
Dr. S.Sanjeevaraja, Dr. B.P.Mahesh Chandra Guru, Ms. G. Rathnamma & Mr. M. Dileepkumar	ROLE OF COOPERATIVES IN THE EMPOWERMENT OF WOMEN: AN EMPIRICAL STUDY	76

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Content

S.No.	Title	Page no.
334	CHANGES OF CONSUMER BEHAVIOUR Dr. L.Leo Franclin P. Reeta	986-988
335	IMPACT OF COMPUTER ON BUSINESS COMMUNICATION Vignaya.V Rajeswari.V	989-990
336	A STUDY OF CUSTOMER SATISFACTION ON VARIOUS MOBILE OPEATORS Vanitha.R	991-992
337	HUMAN RESOURCE PRACTICES IN TNSTC LTD., KUMBAKONAM DIVISION - A STUDY Dr.J. Manivannan	993-995
338	INNOVATION ON ONLINE RETAIL TRADING K.Tamilselvan	996-997
339	THE ROLE OF WOMEN ENTREPRENEURSHIP IN INDIA M.Mekala	998-1000
340	ANALYSIS OF INDIAN GOVERNMENT DEBT TO GDP-AN OVERVIEW S. Suguna	1001-1004
341	PERFORMANCE OF FINANCIAL MANAGEMENT IN THE INDUSTRIAL SECTOR J.Subashini,	1005-1007
342	A ROLE ON AGRICULTURAL SERVICES MARKETING MANAGEMENT IN INDIA S.Singaravadivel,	1008-1010
343	THE IMPACT OF FOREIGN DIRECT INVESTMENT ON THE INDIAN ECONOMY Ms.S.Srividhya	1011-1014
344	A STUDY ON THE ISSUSES CONFORTING ON THE HANDLOOM INDUSTRY IN TAMILNADU Dr. D. Christy Selvarani, Mrs. A.V. Sophia,	1015-1016
345	A STUDY ON GREEN PACKAGING J.Shanu	1017-1018
346	EMPLOYEE WELFARE MEASURES IN RAMCO GROUP TEXTILES IN TRICHY DISTRICT Shanthi Noble	1019-1021
347	A STUDY ON WOMEN EMPOWERMENT Swarnalatha,	1022-1023
348	MANAGING THE ENVIRONMENT: THE FIRST LESSON OF MANAGEMENT Dr.P.S.Pratheep	1024-1027
349	LEVEL OF CONSUMER AWARENESS OF SOME SALES PROMOTION TOOLS OF SELECTED COSMETIC PRODUCTS WITH SPECIAL REFERENCE TO MALAPPURAM DISTRICT, KERALA Thomas K Varghese,	1028-1031
350	CUSTOMER PERCEPTION TOWARDS INTERNET BANKING: CONTRIBUTING FACTORS G. Suresh Dr. S. Elango	1032-1035
351	A REVIEW ON GREEN ENERGY -A SUSTAINABLE APPROACH R.Mercy	1036-1037
352	NEW TECHNOLOGY IN LOGISTICS MANAGEMENT R.Mohammed Fairose	1038-1040
353	OPERATIONS OF MUTUAL FUND AND ITS PROS AND CONS R. Prince Dr. S. Elango	1041-1042

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

A JOURNAL OF COMPOSITION THEORY ISSN : 0731-6755

CUSTOMER EXPERIENCE MANAGEMENT-AN EFFECTIVE TOOL TO THE CUSTOMERS HEART

Dr. S. Elango,
Associate Professor & Research Advisor Commerce,
PG Research Department of Commerce,
Urmu Dhanalakshmi College (Affiliated to Bharathidasan University),
Kattur, Trichy

S. Deepika
Ph.D. Research Scholar
PG Research Dpt of Commerce
Urmu Dhanalakshmi College (Affiliated to Bharathidasan University),
Kattur, Trichy

Abstract

In a competitive business climate, more business owners are looking at improvements in quality while reducing costs. However, sometimes they fail to Invest in creating innovative products to create a niche in the market, so they are in constant pressure to sell the same old product but with new experience to the customers. Companies have started Customer experience management departments in the organisation. The members in these team are responsible for creating methods to deliver the same product with different experience, they have to see things from the eyes of the customers. This paper talks about the various important aspects of the customer experience management and ways to enhance it.

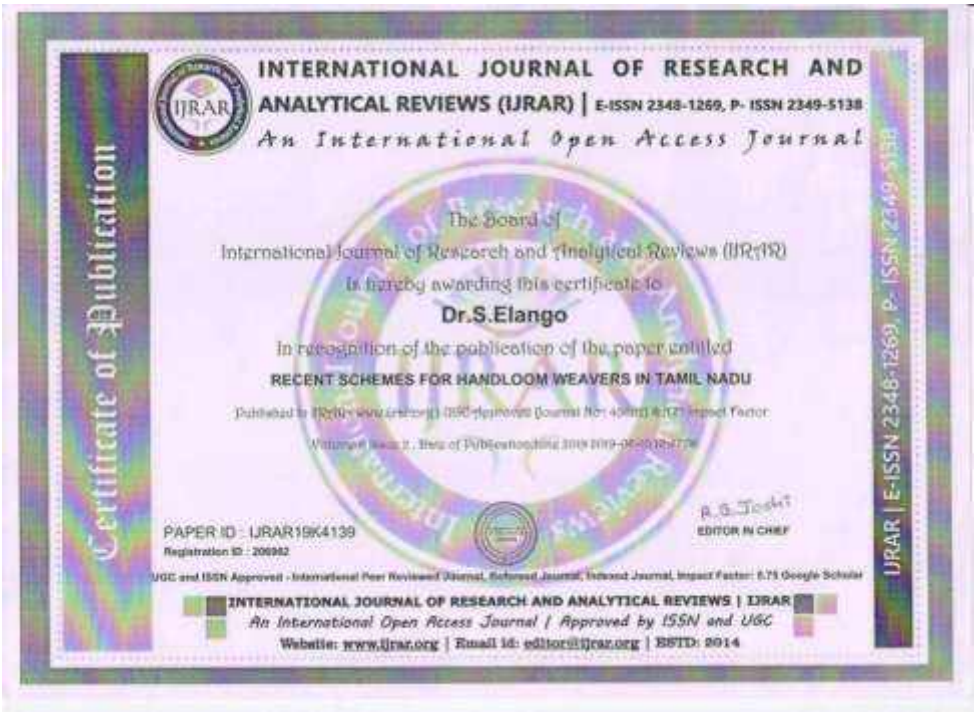
KEYWORDS: *Customer, Experience Management, Customers Heart*

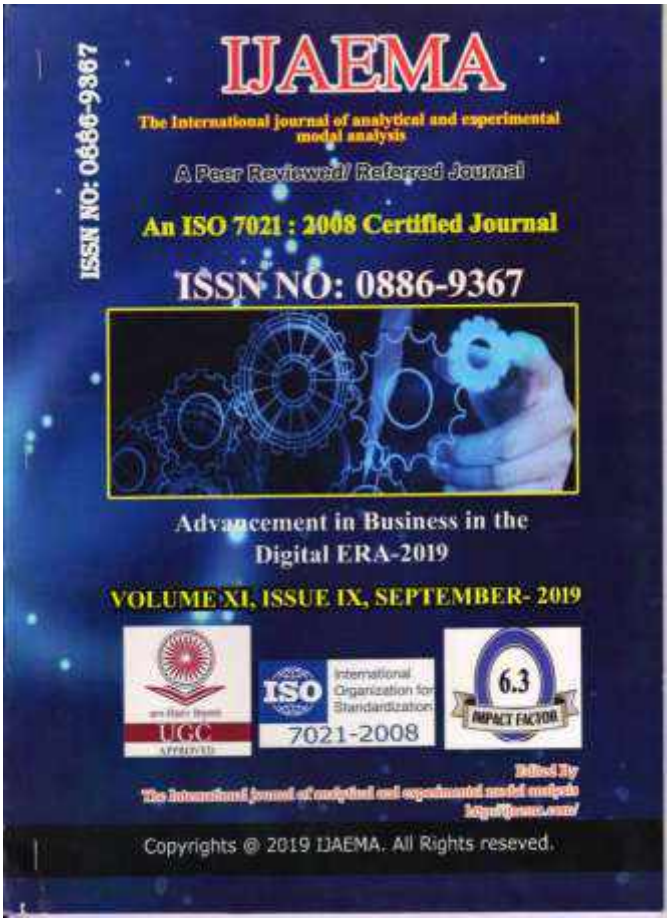
I. INTRODUCTION

We were all familiar with The concept of 'customer experience' we only dint notice. You only have to think of the 1992 film, Home Alone 2, starring Macaulay Culkin. In a sequence in movie, the New York Plaza Hotel advertised as 'New York's most exciting hotel experience.'

Two years later Carbone and Haeckel raised the profile of experience further when they spoke of it as 'the takeaway impression formed by people's face off with products, services, and businesses – a perception produced when humans consolidate sensory information.' However, from a commercial as opposed to academic point of view, it was only in the late 1990s through the work of Pine and Gilmour in their Harvard Business Review article 'Welcome to the Experience Economy' (1998) and book The Experience Economy that the movement for customer experiences really kicked off. Especially because this formalized customer experience as an economic principle in its own right 'as distinct from services as services are from goods' (Joe Pine).And the implications of that are: we must put how customers think and feel at the

3.3.2. Number of research papers per teacher in the Journals notified on UGC





3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

REWARDS AND RECOGNITION – THE KEYS TO EMPLOYEE'S HEART

S. DEEPIKA,
Ph.D. Scholar, PG Research Department of Commerce,
Urmu Dhanalakshmi College, Kattur, Trichy – 620019

Dr. S. ELANGO,
Associate Professor & Research Advisor
PG Research Department of Commerce,
Urmu Dhanalakshmi College, Kattur, Trichy – 620019

ABSTRACT:

In a competitive business climate, employers are looking to enhance the business by using low cost and better quality method. Meanwhile a robust economy has resulted in tight job market. Even small businesses are trying to extract more from their employees. Employee reward and recognition programs are one of the successful techniques of motivating employees to better their attitude towards their work and company. Employee reward systems are specific programs which recognise and reward the good work done by any employee to bring betterment in his role. They are normally benefits that are extra from the salary but can also be monetary benefits. While previously considered the tool of large companies, it has now become common among the small companies to lure employees towards their companies. Retaining quality employees can be a challenge. The high turnover rate not only decreases morale but also the company takes a big hit. It's not easy to acquire and train new talents with the speed that they will be ready to take over roles. Appreciation and recognition are major factors that motivate employees to work harder and aim higher. By appreciating employees for their achievement we increase morale and motivate others to work better.

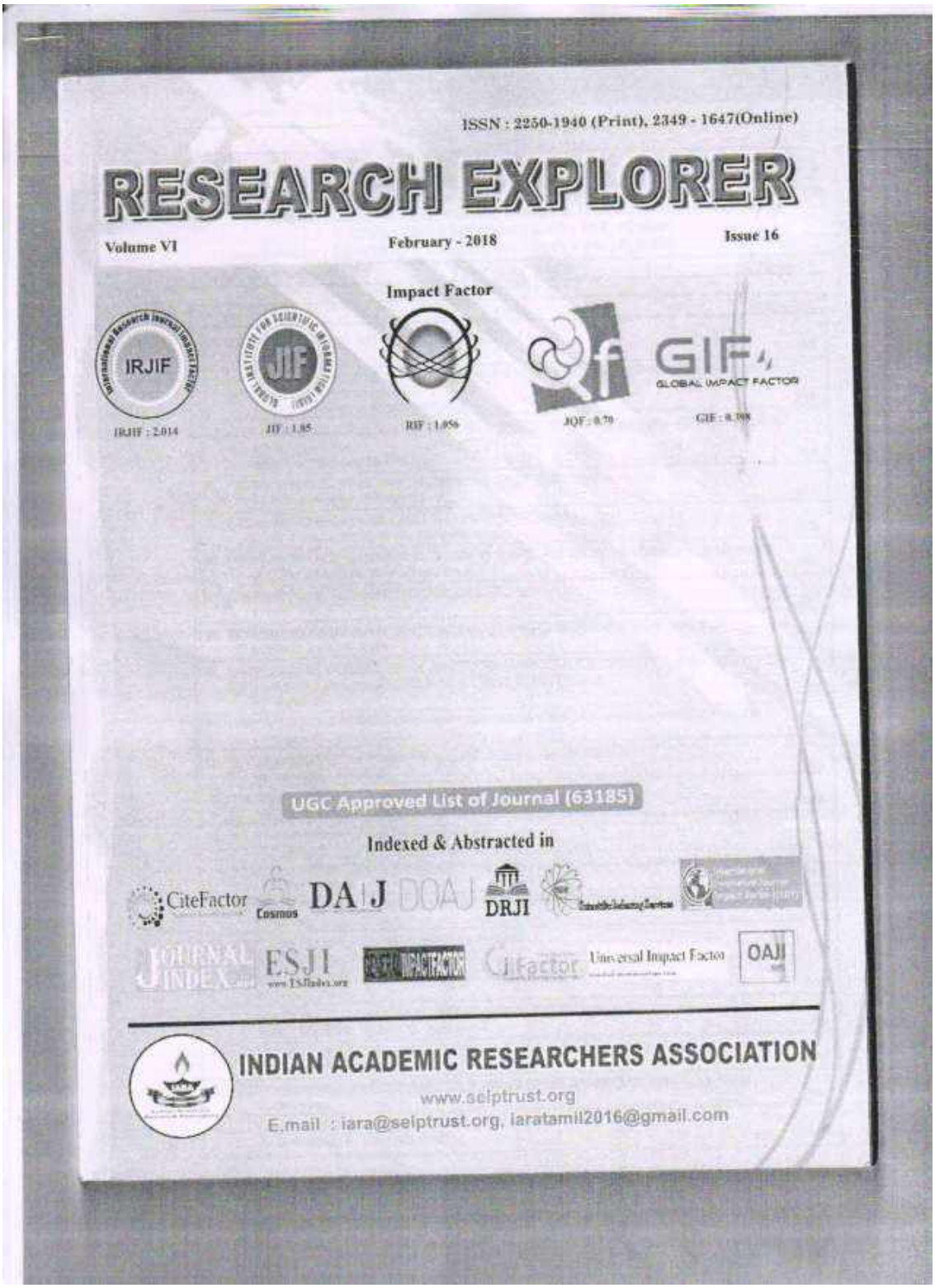
I. INTRODUCTION:

In a competitive business climate, employers are looking to enhance the business by using low cost and better quality method. Meanwhile a robust economy has resulted in tight job market. Even small businesses are trying to extract more from their employees. Employee reward and recognition programs are one of the successful techniques of motivating employees to better their attitude towards their work and company.

Employee reward systems are specific programs which recognise and reward the good work done by any employee to bring betterment in his role. They are normally benefits that are extra from the salary but can also be monetary benefits. While previously considered the tool of large companies, it has now become common among the small companies to lure employees towards their companies.

Retaining quality employees can be a challenge. The high turnover rate not only decreases morale but also the company takes a big hit. It's not easy to acquire and train new talents with the speed that they

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH EXPLORER

(A Refereed Bi Annual International Research Journal on Multidisciplinary)
ISSN : 2250-1940 (Print), 2349 - 1647 (Online)
Impact Factor : 2.014(IRJIF), 1.85(JIF), 1.056(RIF), 0.60(QF), 0.398(GIF), 2.62(NAAS)

Volume VI | February 2018 | Issue 16

CONTENT

S.No.	Title	Page no.
41.	CREATION OF EFFECTIVE SERVICE OF RETAIL STORES Dr. R.Jayanthi	235
42.	A STUDY ON DEEP DISCOUNT EFFECT ON GARMENTS SECTOR ON CONSUMER BEHAVIOR WITH SPECIAL REFERENCE TO THANJAVUR DISTRICT Dr. K.Kalaichelvi, J Elanchezhian	239
43.	ENTREPRENEURIAL MOTIVATION – A STUDY WITH SPECIAL REFERENCE TO RURAL ENTREPRENEURIAL MOTIVATIONS IN KERALA Asha A G, Dr.Thomas KV	244
44.	FACTORS AFFECTING GREEN MARKETING IN INDIA :A STUDY OF METRO CONSUMERS R. Bhuvaneswari, A.Rajpriya	248
45.	HYPERMARKETS: GROWTH AND CHALLENGES PERSPECTIVE IN INDIA Dr. N. Jamuna Rani, Mr. K. Duraimurugan	255
46.	INVESTORS PERCEPTION TOWARDS INVESTMENT IN SHARES :A STUDY WITH REFERENCE TO KUMBAKONAM Dr.C.Sureshkumar, K. Kulanjiammal	260
47.	MAN POWER MANAGEMENT AND INTER PERSONAL SKILLS Jeseni. PV	267
48.	PERFORMANCE EVALUATION OF SELECT DISTRICT CENTRAL CO-OPERATIVE BANKS IN TAMILNADU Aravind, Dr.M.Bharath	275
49.	SOCIAL MEDIA AN EFFECTIVE WAY OF ADVERTISING AMONG COLLEGE STUDENTS, A STUDY WITH SPECIAL REFERENCE TO SOCIAL MEDIA USERS IN MALAPPURAM DISTRICT,KERALA. Sumayya.M	282
50.	SOCIO ECONOMIC CONSTRAINS OF WOMEN INVESTORS ON INVESTMENT DECISION MAKING BEHAVIOUR C.Hariharan, Dr.M.Babu	290
51.	STRESS MANAGEMENT OF WOMEN BANKING EMPLOYEES IN TRICHY DISTRICT Dr.S.Elango, J.Sudha	299
52.	THE HUMAN RESOURCE CAREER PLANNING AND DEVELOPMENT A.Mary Stella, Dr.V.Mahesh	303
53.	VOLATILITY IN INDIAN FOREIGN EXCHANGE MARKET Dr.J.Sathya, A.Leema Roseline	308
54.	A STUDY ON COCONUT MARKETING ISSUES OF THE FARMERS WITH SPECIAL TO THANJAVUR DISTRICT Dr.T.Nedumaran	315
55.	A STUDY ON CUSTOMER SATISFACTION OF VODAFONE SERVICES IN VEDHARANYAM TOWN K.Nidhya	320
56.	A STUDY ON E-COMMERCE IN INDIA VIA ONLINE BANKING A. Marimuthu, Dr. G.Deivasigamani	326
57.	A STUDY ON JAPANESE CANDLESTICK PATTERNS ON INDIAN STOCK MARKET M.Rexlen Jerina	336
58.	A STUDY ON ONLINE SHOPPING AND CUSTOMER SATISFACTION IN TAMILNADU Amira Farvin M, Sathya G, Kalpana.A	340
59.	A STUDY ON PERFORMANCE APPRAISAL OF EMPLOYEES IN THANJAVUR SPINNING MILL LTD P.Shiny Liciya	346
60.	A STUDY ON STRESS LEVEL AMONG MEDICAL REPRESENTATIVES IN THANJAVUR CITY J. Bhuvana	355
61.	A STUDY ON VENTURE CAPITALIST'S FUNDING IN DIFFERENT SECTOR OF TAMILNADU K. Selvarani, K. Vijayalakshmi	358

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STRESS MANAGEMENT OF WOMEN BANKING EMPLOYEES IN TRICHY DISTRICT

Dr.S.Elango
Assistant Professor & Research Adviser
PG & Research Department of Commerce, Urumu Dhanalakshmi College, Trichy-19

J.sudha
Ph.D Researcher
PG & Research Department of Commerce, Urumu Dhanalakshmi College,Trichy-19

Introduction

Stress is burning issue in modern society. Stress Management is more important in now a days in the service, financial and banking. There is no such thing like stress free job. This research show that large number of bankers are facing high level of stress because of their job and the reasons. The employees can notice a number of symptoms indicating high level stress among them. Stress is the wear and tear to our bodies experience as we adjust to our dynamic environment, t has physical, physichological and positive or negative emotions. As a positive influence stress can drive a person towards action. As a negative influence stress can result problems as headaches, upset stomach, rashes, ulcer, high blood pressure, heart disease, and stroke. This paper makes a comparative and solution based study of occupational stress among selected Female Bank employees working in the middle live Hirearchy cadre of Indian Bank (Public sector) and Lakshmi vilas Bank (Private sector) in the Trichy District.

Review of Literature

Dayo A Kintayo (2012) found that working environment is significantly related to workers morale and also working environment is significantly correlated with perceived worker's productivity.

Dr.K.Chandrasekar (2011) found that working environmental factors are conductive to work and he also found that factors that affect attitude of relationships control over environment, shift, emotional factors, job assignment, overtime duty, extended work.

Steve (2002) with so many factors contribution to stress it is difficult to define the concept of stress. However many people have attempted to define the concept of stress. The first actual scientific investigation of stress is attributed to Hans sely, 1956 who is considered by many to be the father of stress.

Lawless and Allan (2004) stress occurs when the perceived. Pressure exceeds your perceived ability to cope.

Lehrer (2005) many international agencies. Such as the international Labour organization are addressing issues surrounding work place stress.

The use of role concepts suggest that occupational stress is associated with individual, interpersonal and structural variables (kutz and kahn 1978; whetten 1978)

A job stressed individual is likely to have greater job dis satisfaction, increased frequency of drinking and smoking increase in negative psychological symptoms and reduced aspirations and self esteem (Jick and Payne, 1980)

Scope of the study

Workers who are stressed are also more likely to be unhealthy, poorly motivated , less productive and Less safe at work. Their organizations are Less likely to be successful in a

3.3.2. Number of research papers per teacher in the Journals notified on UGC

THE IMPACT OF HUMAN RESOURCE MANAGEMENT ON SERVICE EXCELLENCE OF HOSPITALS

M. Chitra devi[1] Dr.S. Elango[2]

Abstract

Human Resources Management (HRM) is a crucial management task in the field of hospital and otherservices sectors, where the client facing challenges because of staff's performance who have the involvementand the quality of performance and that human resource management The objectives and hypotheses of the study is framed on the above basic and the sample were selected on simple random sampling the sample of the study is 60 employees.A questionnaire was used to collect relevant data to the study. Statistical tools were used for analysis the data collected. Tools used for analyzing the data are ANOVA.The results of the study show thatthere is no significant variance observed between the demographic profileof the respondents and HR service excellence of hospital.

Keyword: *Human Resources Management, Service Excellence, Hospitals.*

Introduction

Human Resources Management (HRM) is a crucial management task in the field of hospitals and otherservices sectors, where the client plaster challenges because of staff's enactment that have the involvement and the quality of performance and that human resource management plays an dynamic and crucial role in the success of the reform of the health sector. Human resource management is afraid with the development of both persons and the organization in which they control. Human Resource Management, then, is promised not only in acquiring and developing the bents of individual workers, but also in implementing programs that enhance communication and cooperation among those individual workers in order to nurture organizational development. One of the main goals of Human Resource Management (HRM) is to enhance the performance of organizations.

Human resource is considered as the epicenter of the health care industry and believed that human resources play the most critical and significant role in achieving organizational goals and success. Human capital has been recognized as the organization's life blood, which needs to be developed continuously keeping pace with the development in all other areas of today's dynamic work environment. A knowledgeable worker, one that is both highly skilled in a particular occupation and also shows flexibility, is seen as the most vital human capital resources for the expansion of a county. In the emerging global market place, human capital will matter more to enterprises than physical capital, and human capabilities will determine the value of enterprise (ILO, 2000). In today's modern era, the quantity of employment cannot be divorced from its quality.

Competencies of Human Resources Management in Hospital Sector

Staffing: Ensures that the fitness system obtains a, adequate supply of human resources in all the essential occupational categories to meet its objectives, as financial resources permit. Comprises personnel from the labour market, as well as personnel that is needed but not offered in the labour market and who need to be trained by educational institutions.

Performance management: Its objective is to elevate the productivity and quality of human resource performance in the wellbeing services. It includes interventions for performance management as such ways of organizing the work, technology management, development of work teams, use of motivation systems and ways to evaluate this performance.

Labour relations and personnel administration: Ensures good management of work deals, remuneration systems, conditions for the social safety of workers which includes career appointments, incentive systems, relations between the employer and workers, working relationships – unions, collective bargaining and the mission for effective announcement modalities between administration and workers, as well as conducts to enable staff participation in key decisions that affect their act with the resulting benefit to the population.

Development and Training: Ensures that all human resources in a wellbeing system are properly qualified

[1]. Assistant Professor, Department of Commerce, M.I.E.T Arts and Science College, Trichy
[2]. Assistant Professor, PG & Research Department of Commerce, Urumu Dhanalakshmi College, Trichy

3.3.2. Number of research papers per teacher in the Journals notified on UGC

HUMAN RESOURCES PRACTICES OF PRIVATE HOSPITAL IN TRICHIRAPPALLI CITY SPECIAL REFERENCE TO TRAINING AND DEVELOPMENT PROGRAMME

M. CHITRA DEVI
Ph. D Research Scholar, PG & Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy

Dr. S. ELANGO
Assistant Professor, PG & Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy

ABSTRACT

Training programme was very important for the hospitals nurses because day to day variety of health issues and improvement in the health sector of science and technology like medical science meet the hospitals. Hospital nurses should obtain essential medical related training with the objectives of achieve job well again, improve their work related skill set, increase knowledge about the work and become aware of their future roles and farm duties related to the job. The head-in charge along with the quality of services given into the patients, such as surgery section, scanning, x-ray, laboratory, pharmacy, psychology, counseling and stores. Necessity is implicated in the training process in classify to improve the employee's performance in terms of value, effectiveness and truthfulness. For occurrence, well trained staff will not only provide excellence patient care nevertheless too handle serious situations in a better way, report least number of patient complaint, abide by the infection control protocol minimizing hospital acquired infection cases. This paper deals with the training and development programme of private hospitals in Trichirappalli City.

Key Words: Training programme, hospitals, satisfaction.

INTRODUCTION

The healthcare sector known as the medical industry or health economy is an aggregation and combination of sectors within the economic system that provides goods and services to treat patients with curative, preventive, rehabilitative, and palliative care. It includes the generation and commercialisation of goods and services' rendering themselves to maintaining and re-establishing health. The modern healthcare sector is classified into much industry and based on the interdisciplinary teams of trained professional and paraprofessionals to meet health wants of a person's and peoples. Training and development in the healthcare sector is an in progress process. The importance of an in progress education cannot be overvalued. Sustained education is essential, as the healthcare sector grow so does the area of the changed

3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

Human Resources Management Practice and Its Impact of Employees Job Satisfaction with Reference to Private Hospitals in Trichy City

M. Chitra devi,
Assistant Professor,
Department of Commerce,
M.I.E.T Arts and Science College,
Trichy, Tamil Nadu, India

Dr.S. Elango,
Assisstant Professor,
PG & Research Department of Commerce,
Urumu Dhanalakshmi College,
Trichy, Tamil Nadu, India

ABSTRACT

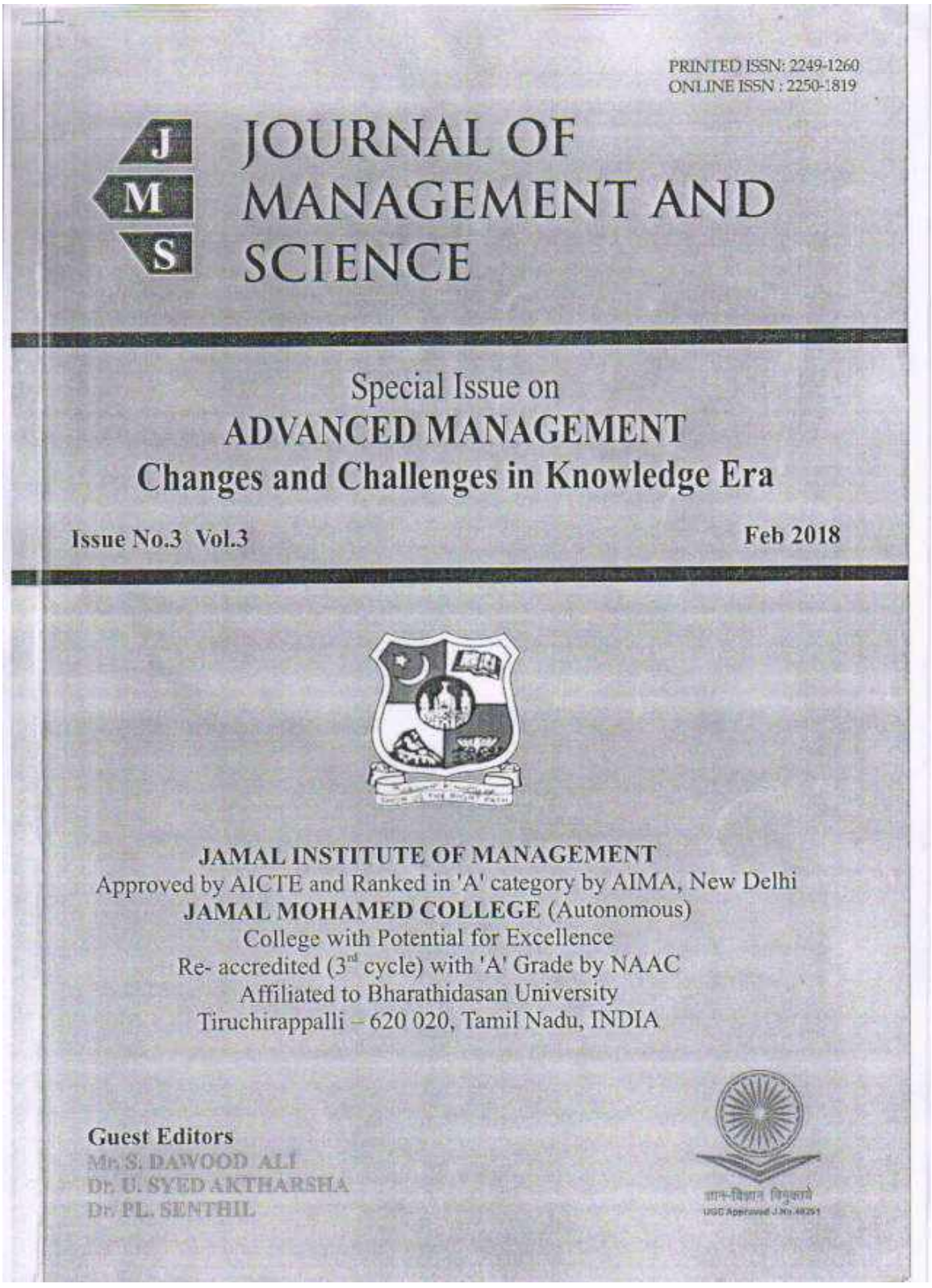
Health care sector is very fast growing in Indian cites new innovations of medicines, medical equipment and health care related machines. Ancient days India's health related problem solving traditional methods. Now impact of new technologies introduction in health care sector need of the very intelligent employees including medical and non-medical employees in hospitals. Employees are recruited, training other related to human resources practices enrichment of hospitals. In this paper analyzing human resources practice and its impact of employees job satisfaction of private hospitals in trichy city.

Key Words: Human resources management, Employees, Job satisfaction, Hospitals.

INTRODUCTION

Human Resource Management (HRM) practices in the health care sector talks for improving the excellence of services and patients satisfaction. The usage of variety of health care providers and better co-ordination of health services through inter disciplinary team work is required as a part of human resource management. Since all the health care is eventually delivered by people, effective human resource management will participate a critical role in the success of health care delivery mechanism in any country. Human resource management practices deal with the individual and team work. Hospitals are faces various human resources management challenges. Managing human resources is the true challenge for the hospital management. It is contributes to the creation of good organizational climate which characterize by the growth opportunities, proper distribution of work, reward and pleasant relationship. Excellence healthcare starts with the human resource management

3.3.2. Number of research papers per teacher in the Journals notified on UGC



PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

JOURNAL OF MANAGEMENT AND SCIENCE

Special Issue on
ADVANCED MANAGEMENT
Changes and Challenges in Knowledge Era

Issue No.3 Vol.3 **Feb 2018**

JAMAL INSTITUTE OF MANAGEMENT
Approved by AICTE and Ranked in 'A' category by AIMA, New Delhi
JAMAL MOHAMED COLLEGE (Autonomous)
College with Potential for Excellence
Re- accredited (3rd cycle) with 'A' Grade by NAAC
Affiliated to Bharathidasan University
Tiruchirappalli – 620 020, Tamil Nadu, INDIA

Guest Editors
Mr. S. DAWOOD ALI
Dr. U. SYED AKTHARSHA
Dr. P.L. SENTHIL

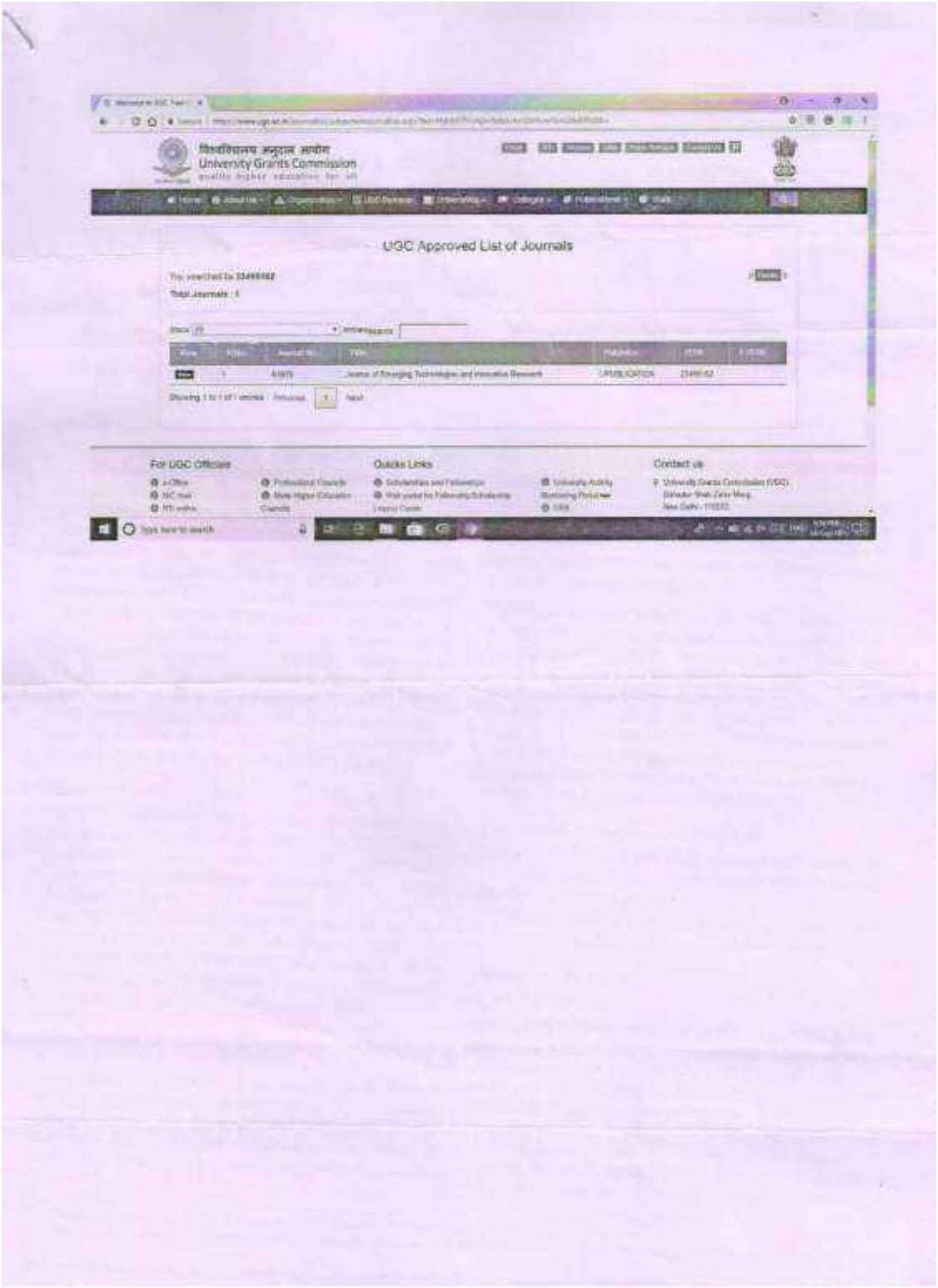
3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management and Science, Special Issue 3, Vol. 3 - Feb-2018
ISSN 2250-1819 / e-ISSN 2249-1260

Sl.No.	Contents	Page No.
(24)	Stress Management in Working Employees for Private Bank *Dr. S.Elango , J.Sudha*	099-101
25	Empowering Excellence – Based on Psychological Empowerment, Job Satisfaction and Job Performance *Dr. G. SIVANESAN Mr. C. MERVYN JUDE SYLVESTE*	102-105
26	A Study on Leadership Practices and Organization Commitment in ERF Rubber Industry-Madurai. *Dr. A. Selvarani Ms. K. Vembu*	106-108
27	A Study on Employee Turnover Intention in Voltas Ltd, Chennai. *Dr. A. Selvarani Mrs. M. Chandra*	109-111
28	The Impact of Television Advertisement on Buying Decision in Consumer Durables Goods in Tiruchirappalli District *Dr. R. KHADER MOHIDEEN P. SARAVANAN*	112-115
29	A Study on Passengers" Satisfaction towards Bus Services *S.SASI*	116-122
30	Consumer Perception on Awareness and Effectiveness of Green Banking Techniques and Initiatives *Dr.I.LOURDES ANGELINE ABILAKSHA, K.U.NIVEDHITA.*	123-127
31	Store Loyalty –A Quotient of retail Service Quality Dimensions *S.Saravanakumar Dr. N. Rajasekar*	128-131
32	Cause Based Brand Strategy: Loving Non-Profiting for a Cause for Profiting *M. SABEERDEEN ARMAN SALIK.*	132-136
33	India's GST – An Administrative Perspective *Dr. K. KHAJA MOHIDEEN S. NOORUL AMEEN*	137-139
34	A Study on Passengers' Perception on Service Quality with Reference to Airlines in Tiruchirappalli Airport *Dr. R. KhaderMohideenS.AbdulRajak*	140-144
35	Growing Component and Behavioral Intention Towards F-Commerce *Dr. M.A. ShakilaBanu Christine Maria Drewitt*	145-147
36	A Study on Shared Vision in Tamilnadu Newsprint and Papers Limited (TNPL), Karur District ***Dr.G.SAIFUDEEN***	148-152

Readers may send popular articles of topical interest in English to the editor email address*(jms.tamilnadu@gmail.com)*

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific Research and Review ISSN: 2279-543X

WORK LIFE BALANCE ISSUES OF WOMEN EMPLOYEES IN PUBLIC SECTOR

V. Sathya Rekha[1]

Dr. S. Elango[2]

Abstract

Individual perception of high Work life balance (WLB) and sense of well being among employees has become imperative for any organization in order to ensure enhanced performance efficiency, particularly in this era of highly competitive business environment. It is no wonder that the work life balance has attracted numerous research. This study attempts to identify work life issues of public sector employees.

Introduction

Women play a pivotal role in the overall progress of a country as they constitute half the human resources of a nation. But the wife still cooks and washes and runs the house. They are considered as super mom and wife (Barnett and Baruch, 1985). Times have changed. From the time the husband earned, and the wife stayed at home, to the time now when the husband earns and the wife earns too. This phenomenon gets accentuated for women, who in most societies are expected to play multiple roles, as caretakers at home and as professionals at work place. Although, over the years women in India have struggled to establish an identity and create a mark in the social as well as in the organizational platforms, but with educational institutions training more and more women to enter professional careers, have drastically changed the scenario.

Work Life Balance (WLB)

Work-life balance has emerged as a major theme during the last two decades, which witnessed a substantial intensification of work caused by economic uncertainty, organisational restructuring, and increase in business competition (Green, 2001; Millward et al., 2000). To respond to the new conditions, organisations demand higher performance and commitment from their employees, which is translated into expectations for working longer and for prioritising work over personal life (Perrons, 2003, pp. 68-72; Simpson, 2000; White et al., 2003).

Importance of Work Life Balance

Many women have begun to occupy higher position in their life. Hence work life balance is important. Today's career women are continuously challenged by the demands of full-time work and when the day is done at the office, they carry more of the responsibilities and commitments to home. Majority of the women are working 40- 45 hours per week and working women are struggling to achieve work/life balance. Women lives are a juggling act that included multiple responsibilities at work, heavy meeting schedules, business trips, on top of managing the daily routine responsibilities of life and home. Therefore everyone wants to achieve a balance between their work and family life.

Work/life balance (WLB) is an issue increasingly recognised as of strategic importance to organizations and of significance to employees. Our lives are characterized by a conflict between professional work and family lives, since ever-longer working hours seen to leave us with less time for our interests, family and leisure time in general. Many changes in the workplace and in employee demographics in the past decade have led to an increased concern for the boundary between employee work and non work lives (Hochschild 1997).

The Specific Objectives of the Study

Keeping this in view the study on work life balance of women employees in the public sector was proposed with the following objectives.

- To identify the issues faced by women employees in the management of their work life balance

Review of Concepts

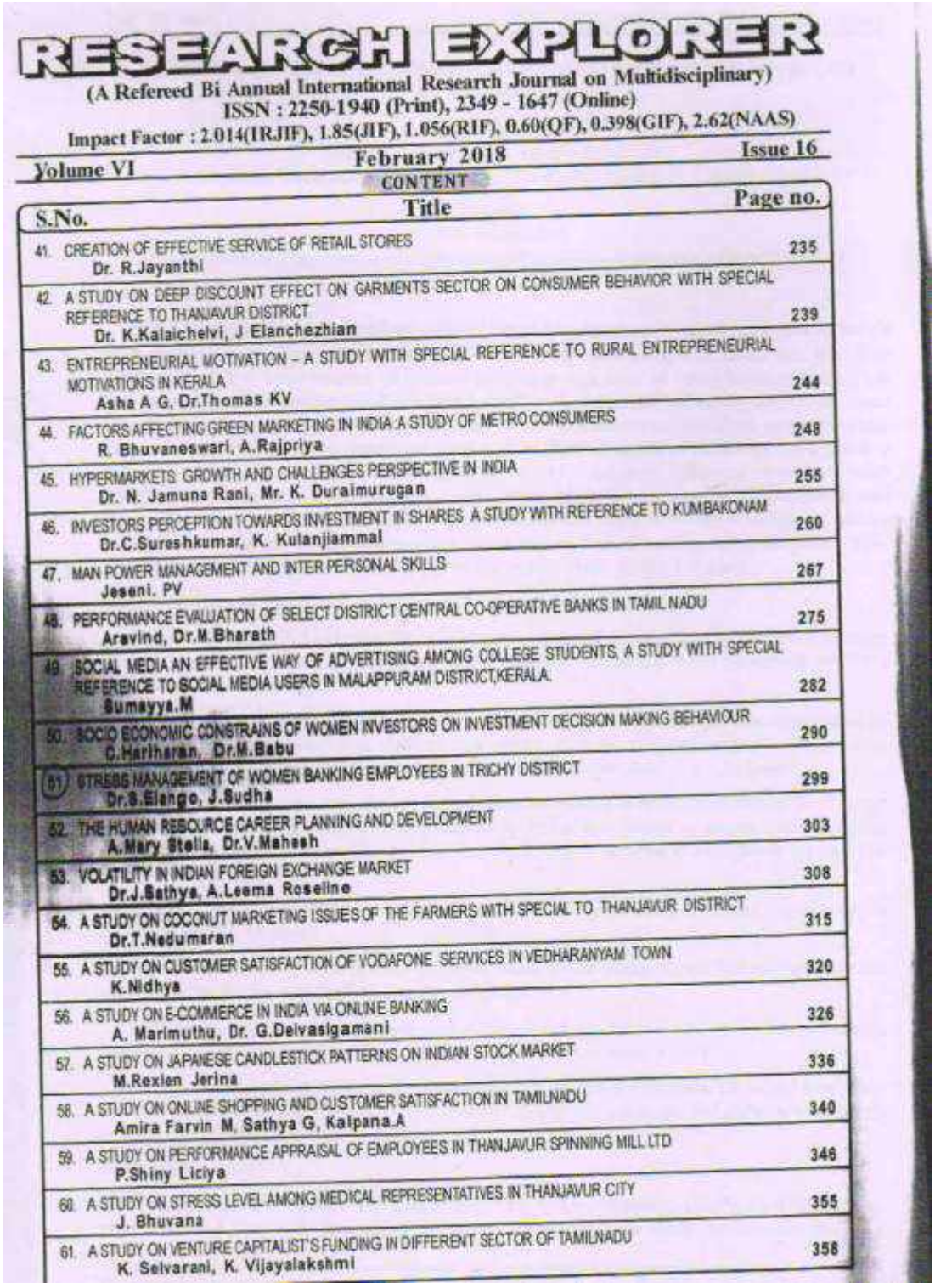
Work life balance

Clark (2000) defined work-family balance as satisfaction and good functioning at work and at home, with a minimum of role conflict. **Felstead *et al.*, (2002)** explained work-life balance as referring to the ability of individuals, regardless of age or gender, to find a rhythm that will allow them to combine their work with their non-work responsibilities, activities and aspirations. **Greenhaus *et al.*, (2003)** stated work-life balance as the extent to which an individual is equally engaged in

1. Research Scholar, Urumu Danalakshmi College, Tiruchirapalli, Tamil Nadu, India
2. Research advisor, Department of Commerce, Urumu Danalakshmi College, Tiruchirapalli, Tamil Nadu, India

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC



RESEARCH EXPLORER

(A Refereed Bi Annual International Research Journal on Multidisciplinary)

ISSN : 2250-1940 (Print), 2349 - 1647 (Online)

Impact Factor : 2.014(IRJIF), 1.85(JIF), 1.056(RIF), 0.60(QF), 0.398(GIF), 2.62(NAAS)

Volume VI | February 2018 | Issue 16

CONTENT

S.No.	Title	Page no.
41.	CREATION OF EFFECTIVE SERVICE OF RETAIL STORES Dr. R.Jayanthi	235
42.	A STUDY ON DEEP DISCOUNT EFFECT ON GARMENTS SECTOR ON CONSUMER BEHAVIOR WITH SPECIAL REFERENCE TO THANJAVUR DISTRICT Dr. K.Kalaichelvi, J Elanchezhian	239
43.	ENTREPRENEURIAL MOTIVATION – A STUDY WITH SPECIAL REFERENCE TO RURAL ENTREPRENEURIAL MOTIVATIONS IN KERALA Asha A G, Dr.Thomas KV	244
44.	FACTORS AFFECTING GREEN MARKETING IN INDIA A STUDY OF METRO CONSUMERS R. Bhuvaneswari, A.Rajpriya	248
45.	HYPERMARKETS GROWTH AND CHALLENGES PERSPECTIVE IN INDIA Dr. N. Jamuna Rani, Mr. K. Duraimurugan	255
46.	INVESTORS PERCEPTION TOWARDS INVESTMENT IN SHARES A STUDY WITH REFERENCE TO KUMBAKONAM Dr.C.Sureshkumar, K. Kulanjiammal	260
47.	MAN POWER MANAGEMENT AND INTER PERSONAL SKILLS Jeseni. PV	267
48.	PERFORMANCE EVALUATION OF SELECT DISTRICT CENTRAL CO-OPERATIVE BANKS IN TAMIL NADU Aravind, Dr.M.Bharath	275
49	SOCIAL MEDIA AN EFFECTIVE WAY OF ADVERTISING AMONG COLLEGE STUDENTS, A STUDY WITH SPECIAL REFERENCE TO SOCIAL MEDIA USERS IN MALAPPURAM DISTRICT,KERALA. Sumayya.M	282
50.	SOCIO ECONOMIC CONSTRAINS OF WOMEN INVESTORS ON INVESTMENT DECISION MAKING BEHAVIOUR C.Hariharan, Dr.M.Babu	290
51	STRESS MANAGEMENT OF WOMEN BANKING EMPLOYEES IN TRICHY DISTRICT Dr.S.Elango, J.Sudha	299
52.	THE HUMAN RESOURCE CAREER PLANNING AND DEVELOPMENT A.Mary Stella, Dr.V.Mahesh	303
53.	VOLATILITY IN INDIAN FOREIGN EXCHANGE MARKET Dr.J.Sathya, A.Leema Roseline	308
54.	A STUDY ON COCONUT MARKETING ISSUES OF THE FARMERS WITH SPECIAL TO THANJAVUR DISTRICT Dr.T.Nedumaran	315
55.	A STUDY ON CUSTOMER SATISFACTION OF VODAFONE SERVICES IN VEDHARANYAM TOWN K.Nidhya	320
56.	A STUDY ON E-COMMERCE IN INDIA VIA ONLINE BANKING A. Marimuthu, Dr. G.Deivasigamani	326
57.	A STUDY ON JAPANESE CANDLESTICK PATTERNS ON INDIAN STOCK MARKET M.Rexlen Jerina	336
58.	A STUDY ON ONLINE SHOPPING AND CUSTOMER SATISFACTION IN TAMILNADU Amira Farvin M, Sathya G, Kalpana.A	340
59.	A STUDY ON PERFORMANCE APPRAISAL OF EMPLOYEES IN THANJAVUR SPINNING MILL LTD P.Shiny Liciya	346
60.	A STUDY ON STRESS LEVEL AMONG MEDICAL REPRESENTATIVES IN THANJAVUR CITY J. Bhuvana	355
61.	A STUDY ON VENTURE CAPITALIST'S FUNDING IN DIFFERENT SECTOR OF TAMILNADU K. Selvarani, K. Vijayalakshmi	358

3.3.2. Number of research papers per teacher in the Journals notified on UGC

PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

JOURNAL OF MANAGEMENT AND SCIENCE

Special Issue on

ADVANCED MANAGEMENT
Changes and Challenges in Knowledge Era

Issue No.3 Vol.3 **Feb 2018**

JAMAL INSTITUTE OF MANAGEMENT
Approved by AICTE and Ranked in 'A' category by AIMA, New Delhi
JAMAL MOHAMED COLLEGE (Autonomous)
College with Potential for Excellence
Re- accredited (3rd cycle) with 'A' Grade by NAAC
Affiliated to Bharathidasan University
Tiruchirappalli – 620 020, Tamil Nadu, INDIA

Guest Editors
Mr. S. DAWOOD ALI
Dr. U. SYED AKTHARSHA
Dr. P.L. SENTHIL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management and Science, Special Issue 3, Vol. 3 - Feb-2018
ISSN 2250-1819 / e-ISSN 2249-1260

Sl.No.	Contents	Page No.
24	Stress Management in Working Employees for Private Bank *Dr. S.Elango , J.Sudha*	099-101
25	Empowering Excellence – Based on Psychological Empowerment, Job Satisfaction and Job Performance *Dr. G. SIVANESAN Mr. C. MERVYN JUDE SYLVESTE*	102-105
26	A Study on Leadership Practices and Organization Commitment in ERF Rubber Industry-Madurai. *Dr. A. Selvarani Ms. K. Vembu*	106-108
27	A Study on Employee Turnover Intention in Voltas Ltd, Chennai. *Dr. A. Selvarani Mrs. M. Chandra*	109-111
28	The Impact of Television Advertisement on Buying Decision in Consumer Durables Goods in Tiruchirappalli District *Dr. R. KHADER MOHIDEEN P. SARAVANAN*	112-115
29	A Study on Passengers" Satisfaction towards Bus Services *S.SASI*	116-122
30	Consumer Perception on Awareness and Effectiveness of Green Banking Techniques and Initiatives *Dr.J.LOURDES ANGELINE ABILAKSHA, K.U.NIVEDHITA,*	123-127
31	Store Loyalty –A Quotient of retail Service Quality Dimensions *S.Saravanakumar Dr. N. Rajasekar*	128-131
32	Cause Based Brand Strategy: Loving Non-Profiting for a Cause for Profiting *M. SABEERDEEN ARMAN SALIK.*	132-136
33	India's GST – An Administrative Perspective *Dr. K. KHAJA MOHIDEEN S. NOORUL AMEEN*	137-139
34	A Study on Passengers' Perception on Service Quality with Reference to Airlines in Tiruchirappalli Airport *Dr. R. KhaderMohideenS.AbdulRajak*	140-144
35	Growing Component and Behavioral Intention Towards F-Commerce *Dr. M.A. ShakilaBanu Christine Maria Drewitt*	145-147
36	A Study on Shared Vision in Tamilnadu Newsprint and Papers Limited (TNPL), Karur District ***Dr.G.SAIFUDEEN***	148-152

Readers may send popular articles of topical interest in English to the editor email address*(jms.tamilnadu@gmail.com)*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management and Science | Special Issue 3, Vol.3 | Feb 2018 ISSN 2250-1819 | EISSN 2249-1260

Stress Management in Working Employees for Private Bank

Dr. S.Elango
Assistant Professor & Research Advisor
PG & Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy

J.Sudha
Ph.D Researcher, PG & Research
Department of Commerce,
Urumu Dhanalakshmi College, Trichy

INTRODUCTION

Stress is an integral part of everyday life. Stress refers to the strain from the conflict between our external environment and us. Leading to emotional and physical pressure. Stress has become a pervading issue of everyone's life in this modern world. The Levels of stress help to increase the individual's performance while excessive amounts of stress can lead to a decreased performance . the banking sector had under gone rapid and striking changes like policy changes due to globalization and liberalization. So Banks are facing many challenges. As a response of which they have to make efforts to increase their efficiency. This results in more workload on their employees. The organization stress result in employee turnover, change in behavior and attitude.

REVIEW OF LITERATURE

Ahuja (2012) found that working Environment is significantly related to workers morale and also working Environment is correlated with perceived workers productivity.

I.S.Kang and R.S.Sandhu (2011) in their article said that stress is an individual's state of mind in an encounter of a demanding situation or any constraint in the organization which she feels hamful or threating for her/himself. Stress emerges from various energy seeping conditions in the working environment.

R.Neelamegam and S.Asrafi (2010) in their article said that stress is a general term applied to the pressures felt in life. Stress at work is almost inevitable in many job. It has become a major buzzworld.

Nadeem Malik (2011) The growing importance of interventional strategies is felt more at organizational Level. This research intended to study the impact of occupational stress on public and private Bank employees.

SCOPE OF THE STUDY

Stress an integral part of the human existence, is said to have an immense influence over the lives of individuals and the organization. In the present era the nature and intensity of stress is to turbulent that the present age has been Age of Anxiety, stress and Depression. As individuals spend most of their time at work the work place has been conceived to be a potent contributor and influencer of stress. At the work place, various roles are performed which have to be in synchronization with the roles at home and other places. The stress induced due to roles performed by individuals as employees at work place has been one of the most persuasive organizational stressors the cut comes of which have been found to be costly to the organization.

Objectives

- To identify the cause of stress among Bank employees
- To study the effect of stress on productivity of the organization.
- To study the effect of stress on the health of employees.
- To analyze the importance of interventional strategies at organizational level to manage stress among bank employees.

METHODOLOGY

Research design
The study was of exploratory in nature. The sample size is 20. It was collected from the employees of various private sector banks.

Source of Data
(a) Primary Data
Data was collected through self-structured questionnaire

(b) Secondary Data
Secondary data collected Books, internet, journals.

Sampling Design
Convenience sampling design is used in this project.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Social Sciences
Vol. 8 Issue 10(1), October 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

A Study on Consumer's Brand Preference towards Two-Wheelers in Panruti

Dr.S.Elango*
Mrs. S. Baby Motcharakkini**

Abstract
India has become the world's largest market for two-wheelers and India's two-wheelers manufacturers rolled out 23.1 million units during 2017-18. The country has a vibrant domestic market. For example, in 2010-11, the sales volume of two-wheelers was 11,768,910 units. It increases to 20,192,672 units in 2017-18. In the market every year the two-wheelers populations are growing twice as many as that of the previous year. Two wheelers accounted for 81% of domestic demand in 2017-18. Hence, the demand for two-wheelers increases every year. Similarly, the preferences of the consumer are also changing from time to time. A number of companies are manufacturing two-wheelers of various kinds to suit every changing consumer's preference. Hence, if a company, manufacturing two-wheelers, wants to sustain in this competitive business environment, it should understand the behavior/preference of the consumers. The energetic environmental factors and ferocious competition is making it imperative to understand the dynamics of consumer long-lasting market. Market survival depends on consumer satisfaction. Consumer satisfaction depends on their perception and brand preference of a particular brand. 4 brands of two-wheelers are studied in the study area. The study would bring to light which two-wheelers brand is utmost preferred by the consumers and why chose a particular two-wheelers brand. Adopting a random sampling technique, 150 owners of the two-wheelers were chosen as respondents in Panruti. Hence, the researcher has made an attempt to find out the brand preference of the consumers for two-wheelers. The author has found that the product quality seems to be the first and fuel efficiency is the next factor in promoting the customer to go in for a particular brand.
Keywords: Consumer brand preference, Consumer, Consumer Satisfaction and Two wheelers.

Introduction
In the modern world, too many goods are racing too many consumers. There are winners and losers. The winners are those who carefully analyze need, identify opportunities and create value-rich offers for target consumer groups which the other competitors cannot match. In the past, marketers could understand consumers through the daily experience of selling to them. But the growth in the size of the firms and marketers has removed many marketing decision makers from direct contact with consumers. Increasingly managers have had to turn to consumer research for answers to the question such as "What do the consumers buy". The company that understands how consumers will respond to different product features, prices and advertising appeals and so on will have an enormous advantage over its competitors. From this, one can understand the importance of

* Dr.S.Elango, Asst. Professor of Commerce, UrumuDhanalakshmi College, Trichy
** Mrs. S. Baby Motcharakkini, Asst. Professor of Commerce, St. Joseph's College of Arts & Science (Autonomous), Cuddalore-1

3.3.2. Number of research papers per teacher in the Journals notified on UGC

© 2019 JETIR January 2019, Volume 6, Issue 1 www.jetir.org (ISSN-2349-5162)

WORK-LIFE BALANCE AMONG EMPLOYEES IN A PRIVATE SOFTWARE FIRM

[1]V.SATHYAREKHA [2]Dr.S.ELANGO
[1]Research Scholar [2]Asst. Professor
PG and Research Department of Commerce,
Urumu Dhanalakshmi College, Trichy – 620019, Tamilnadu.

Everyone have a mission or a purpose to their life. Everyone can perform better when their thoughts, feelings, emotions, goals and values are in balance. Balance in life between work and personal life is very important. Without balance, eventually burn out, employees negatively affecting performance at work. Work-life balance involves juggling workplace stress with the daily pressures of family, friends, and self. Modern employees demand greater control over their lives and a bigger say in the structure of their job. The aim of this article is to understand why work life balance is important to everyone and to explore the meaning of ''balance" in the context of the study of work life balance. The main objective of the study is to understand the demographic variables and to evaluate the effectiveness of work-life balance. It makes understood that everyone have a mission or a purpose to their life. Work-life balance is something, which is important for both the employees and the employer. When an employer helps the employee to create the balance between personal life and professional life, it creates a positive image on the employer. This paper sheds on light that the factors involved in Work Life Balance and it tries to suggest measure to improve work life balance.

Key Words: Work Life Balance, Employer, Demographic Variables and Employees.

1.INTRODUCTION

Work–life balance is the term used to "describe the balance that an individual needs between time allocated for work and other aspects of life". When an individual maintains a balance between his personal and professional life, the phenomenon is known as Work-Life Balance. It is very important and is worth to maintain such a balance between ones personal and work life. There are lots of factors that will affect this balance and it is not going to be same for everyone. It will vary from person to person and from profession to profession. For example, jobs that are stressful in nature will affect the work-life balance of an individual more when compared to the jobs that are less stressful. When an individual is not able to strike a balance between the personal and professional life, there arises lot of consequences. The effects can be in the form of physical health deterioration or at the extreme, it may also affect the mental health of a person. This in turn affect the productivity of the organization as when the physical health of an employee is affected, this will lead to absenteeism , lack of concentration, lack of enthusiasm etc., ". There are four basic components of work life balance and they are self-Management, Time management, stress management and change management. One has to focus on all these four components to achieve effective work-life balance.

2. OBJECTIVES

The main objectives of the study is to understand the demographic variables and to evaluate the effectiveness of work-life balance. In addition, this study tries to suggest measure to improve work life balance.

3. RESEARCH METHODOLOGY

Research Design: A descriptive research design was adopted for this study. Descriptive research is one where it describes the characteristics of the population.

Sampling: Stratified random sampling technique was used and the data was collected from 153 employees working in a private software firm.

Period of study: The period of study was four months. A well-designed questionnaire was used as the instrument for the study and the results of reliability test is as follows:

Cronbach's Alpha

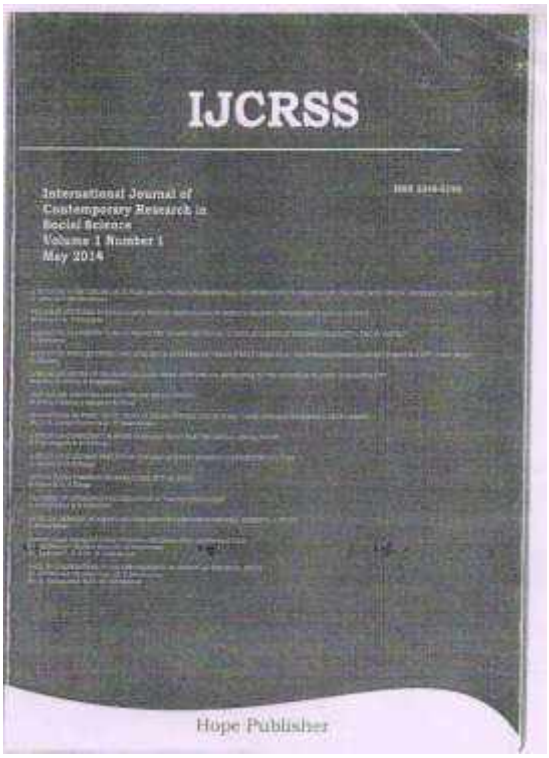
Table – 1
Reliability of the data

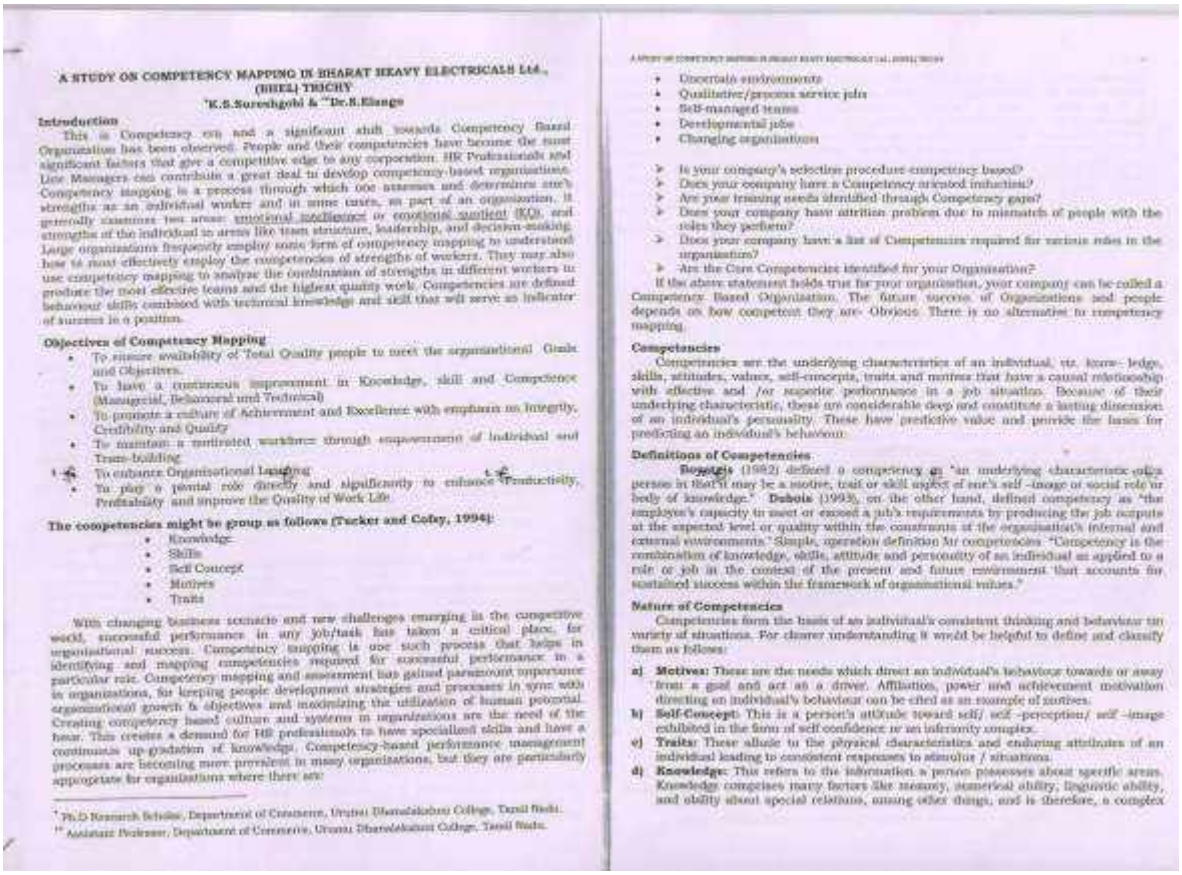
Reliability Statistics	
Cronbach's Alpha	No. of Items
.881	22

Source: Output Generated from SPSS 21

A pilot study was carried out to test the reliability and Cronbach's α was calculated based on data collected from 22 employees in the software firm for the purpose of the pilot study.

3.3.2. Number of research papers per teacher in the Journals notified on UGC





A STUDY ON COMPETENCY MAPPING IN BHARAT HEAVY ELECTRICALS Ltd., (BHEL) TRICHY

*K.S.Sureshgobi & **Dr.S.Elango

Introduction

This is Competency era and a significant shift towards Competency Based Organization has been observed. People and their competencies have become the most significant factors that give a competitive edge to any corporation. HR Professionals and Line Managers can contribute a great deal to develop competency-based organizations. Competency mapping is a process through which one assesses and determines one's strengths as an individual worker and in some cases, as part of an organization. It generally examines two areas: emotional intelligence or emotional quotient (EQ), and strengths of the individual in areas like team structure, leadership, and decision-making. Large organizations frequently employ some form of competency mapping to understand how to most effectively employ the competencies of strengths of workers. They may also use competency mapping to analyze the combination of strengths in different workers to produce the most effective teams and the highest quality work. Competencies are defined behaviour skills combined with technical knowledge and skill that will serve as indicator of success in a position.

Objectives of Competency Mapping

- To ensure availability of Total Quality people to meet the organizational Goals and Objectives.
- To have a continuous improvement in Knowledge, skill and Competence (Managerial, Behavioral and Technical)
- To promote a culture of Achievement and Excellence with emphasis on Integrity, Credibility and Quality
- To maintain a motivated workforce through empowerment of Individual and Team-building
- To enhance Organizational Learning
- To play a pivotal role directly and significantly to enhance Productivity, Profitability and improve the Quality of Work Life.

The competencies might be group as follows (Tucker and Cofey, 1994):

- Knowledge
- Skills
- Self Concept
- Motives
- Traits

With changing business scenario and new challenges emerging in the competitive world, successful performance in any job/task has taken a critical place, for organizational success. Competency mapping is one such process that helps in identifying and mapping competencies required for successful performance in a particular role. Competency mapping and assessment has gained paramount importance in organizations, for keeping people development strategies and processes in sync with organizational growth & objectives and maximizing the utilization of human potential. Creating competency based culture and systems in organizations are the need of the hour. This creates a demand for HR professionals to have specialized skills and have a continuous up-gradation of knowledge. Competency-based performance management processes are becoming more prevalent in many organizations, but they are particularly appropriate for organizations where there are:

* Ph.D Research Scholar, Department of Commerce, Urumu Dhanalakshmi College, Tamil Nadu.
** Assistant Professor, Department of Commerce, Urumu Dhanalakshmi College, Tamil Nadu.

- Uncertain environments
- Qualitative/process service jobs
- Self-managed teams
- Developmental jobs
- Changing organizations

- Is your company's selection procedure competency based?
- Does your company have a Competency oriented induction?
- Are your training needs identified through Competency gaps?
- Does your company have attrition problem due to mismatch of people with the roles they perform?
- Does your company have a list of Competencies required for various roles in the organization?
- Are the Core Competencies identified for your Organization?

If the above statement holds true for your organization, your company can be called a Competency Based Organization. The future success of Organizations and people depends on how competent they are. Obvious. There is no alternative to competency mapping.

Competencies

Competencies are the underlying characteristics of an individual, viz. knowledge, skills, attitudes, values, self-concepts, traits and motives that have a causal relationship with effective and /or superior performance in a job situation. Because of their underlying characteristic, these are considerable deep and constitute a lasting dimension of an individual's personality. These have predictive value and provide the basis for predicting an individual's behaviour.

Definitions of Competencies

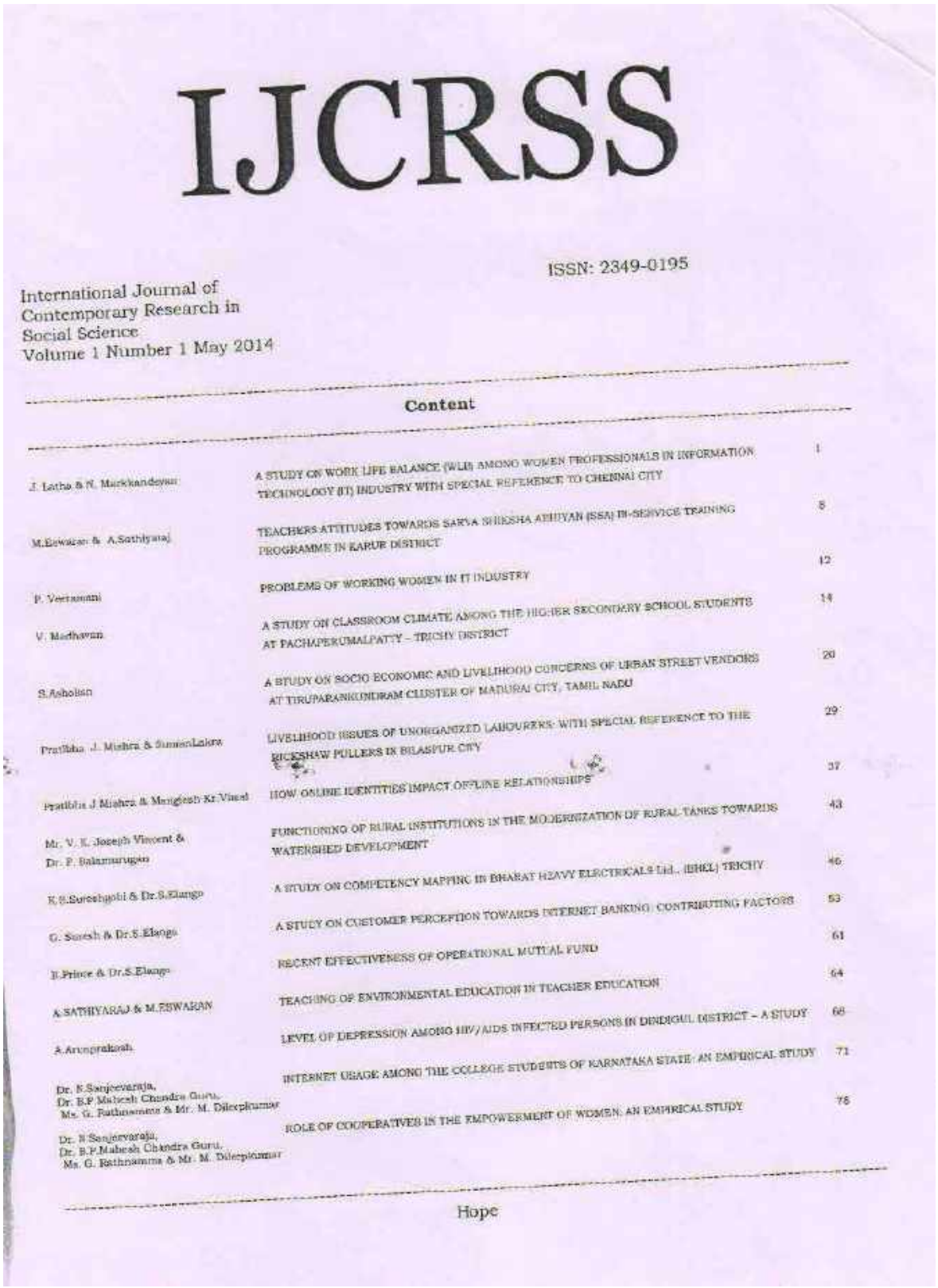
Boyatzis (1982) defined a competency as "an underlying characteristic of a person in that it may be a motive, trait or skill aspect of one's self -image or social role or body of knowledge." **Dubois** (1993), on the other hand, defined competency as "the employee's capacity to meet or exceed a job's requirements by producing the job outputs at the expected level or quality within the constraints of the organization's internal and external environments." Simple, operation definition for competencies "Competency is the combination of knowledge, skills, attitude and personality of an individual as applied to a role or job in the context of the present and future environment that accounts for sustained success within the framework of organizational values."

Nature of Competencies

Competencies form the basis of an individual's consistent thinking and behaviour on variety of situations. For clearer understanding it would be helpful to define and classify them as follows:

a) **Motives:** These are the needs which direct an individual's behaviour towards or away from a goal and act as a driver. Affiliation, power and achievement motivation directing an individual's behaviour can be cited as an example of motives.
b) **Self-Concept:** This is a person's attitude toward self/ self -perception/ self –image exhibited in the form of self confidence or an inferiority complex.
c) **Traits:** These allude to the physical characteristics and enduring attributes of an individual leading to consistent responses to stimulus / situations.
d) **Knowledge:** This refers to the information a person possesses about specific areas. Knowledge comprises many factors like memory, numerical ability, linguistic ability, and ability about special relations, among other things, and is therefore, a complex

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJCRSS

ISSN: 2349-0195

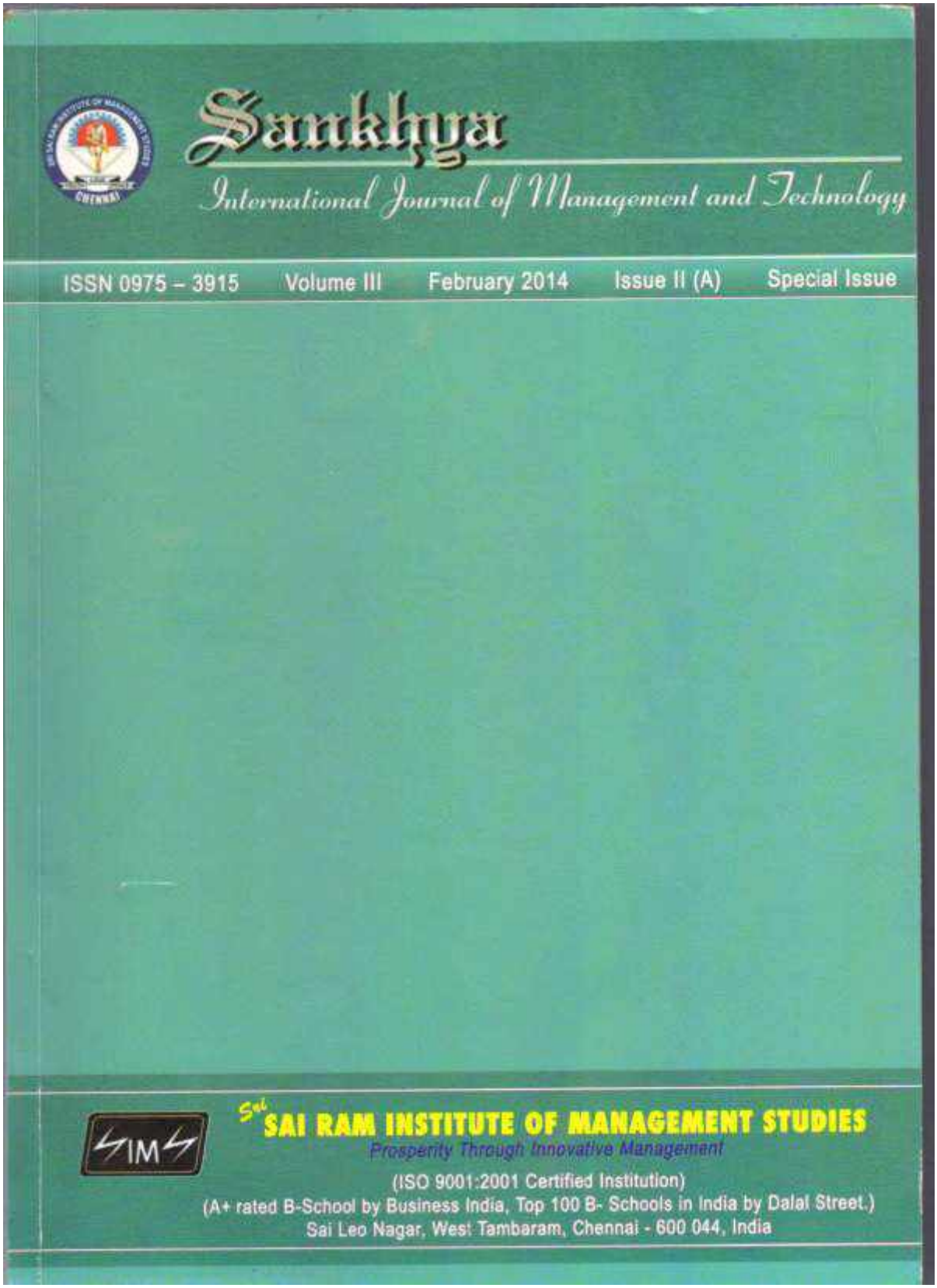
International Journal of
Contemporary Research in
Social Science
Volume 1 Number 1 May 2014

Content

J. Latha & N. Markkandeyan	A STUDY ON WORK LIFE BALANCE (WLB) AMONG WOMEN PROFESSIONALS IN INFORMATION TECHNOLOGY (IT) INDUSTRY WITH SPECIAL REFERENCE TO CHENNAI CITY	1
M.Eswaran & A.Sathiyaraj	TEACHERS ATTITUDES TOWARDS SARVA SHIKSHA ABHIYAN (SSA) IN-SERVICE TRAINING PROGRAMME IN KARUR DISTRICT	8
P. Veerasami	PROBLEMS OF WORKING WOMEN IN IT INDUSTRY	12
V. Madhavan	A STUDY ON CLASSROOM CLIMATE AMONG THE HIGHER SECONDARY SCHOOL STUDENTS AT PACHAPERUMALPATTY – TRICHY DISTRICT	14
S.Asholan	A STUDY ON SOCIO ECONOMIC AND LIVELIHOOD CONCERNS OF URBAN STREET VENDORS AT TIRUPARANKUNDRAM CLUSTER OF MADURAI CITY, TAMIL NADU	20
Pratibha .J. Mishra & SumanLakra	LIVELIHOOD ISSUES OF UNORGANIZED LABOURERS: WITH SPECIAL REFERENCE TO THE RICKSHAW PULLERS IN BILASPUR CITY	29
Pratibha J Mishra & Manglesh Kr.Vimal	HOW ONLINE IDENTITIES IMPACT OFFLINE RELATIONSHIPS	37
Mr. V. K. Joseph Vincent & Dr. P. Balamurugan	FUNCTIONING OF RURAL INSTITUTIONS IN THE MODERNIZATION OF RURAL TANKS TOWARDS WATERSHED DEVELOPMENT	43
K.S.Sureshjothi & Dr.S.Elango	A STUDY ON COMPETENCY MAPPING IN BHARAT HEAVY ELECTRICALS Ltd., (BHEL) TRICHY	46
G. Suresh & Dr.S.Elango	A STUDY ON CUSTOMER PERCEPTION TOWARDS INTERNET BANKING: CONTRIBUTING FACTORS	53
E.Prince & Dr.S.Elango	RECENT EFFECTIVENESS OF OPERATIONAL MUTUAL FUND	61
A.SATHIYARAJ & M.ESWARAN	TEACHING OF ENVIRONMENTAL EDUCATION IN TEACHER EDUCATION	64
A.Arunprakash	LEVEL OF DEPRESSION AMONG HIV/AIDS INFECTED PERSONS IN DINDIGUL DISTRICT – A STUDY	68
Dr. S.Sanjeevaraju, Dr. B.P.Mahesh Chandra Guru, Ms. G. Rathnamma & Mr. M. Dileepkumar	INTERNET USAGE AMONG THE COLLEGE STUDENTS OF KARNATAKA STATE: AN EMPIRICAL STUDY	71
Dr. S.Sanjeevaraju, Dr. B.P.Mahesh Chandra Guru, Ms. G. Rathnamma & Mr. M. Dileepkumar	ROLE OF COOPERATIVES IN THE EMPOWERMENT OF WOMEN: AN EMPIRICAL STUDY	75

Hope

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Sankhya International Journal of Management and Technology

CUSTOMER PERCEPTION TOWARDS INTERNET BANKING: CONTRIBUTING FACTORS

G. Suresh
PhD Research scholar (PT)
Dr. S. Elango
Asst. Professor, Department of commerce,
Urumu Dhanalakshmi College, Tiruchirappalli – 620 019

ABSTRACT

Today the Internet banking facilities are growing and becoming very popular because of convenience and flexibility. Without even interacting with the bankers, customers transact from one corner of the country to another corner. The present paper explores the major factors responsible for internet banking based on respondents' perception on various internet applications. It also provides a framework of the factors which are taken to assess the internet banking perception.

Key words: Internet banking, online, Bank, perception, e-banking

Introduction

Internet banking is the term used for new age banking system. Internet banking is also called as online banking and it is an outgrowth of PC banking. Internet banking uses the internet as the delivery channel by which to conduct banking activity. Internet banking is a result of explored possibility to use internet application in one of the various domains of commerce. It is difficult to infer whether the internet tool has been applied for convenience of bankers or for the customers' convenience. But ultimately it contributes in increasing the efficiency of the banking operation as well providing more convenience to customers. There are many advantages of online Banking. It is more convenient and it is not bound by operational timings, there are no geographical barriers and the services can be offered at a minuscule cost. Electronic banking has experienced explosive growth and has transformed traditional practices in banking. According to christopher, E banking has become an important channel to sell the products and services and is perceived to be necessity in order to stay profitable in successful.

Objectives of the study

1. The present study aims to explore the major factors responsible for internet banking based on respondents' and non-respondents perception on various internet applications.
2. This Study also tries to examine whether there is any relation with the demographic variable
3. To know the various perception of Respondents about internet banking user and non user.

Review of Literature

In 2001; a RBI survey revealed that of 50% were either offering internet banking services at various levels or planned to in the near future. According to a research report, (Indian Research Kotak securities May 2002) while in 2001 India's internet user base was an estimated a Lakh; it was expected to reach 90 lakh by 2003 also while only 1% of these internet users utilized the internet banking services in 1998, the internet banking users based increased to 16.7% by mid 2000.

1. Meuter et. al (2000)

Have identified critical incidents of customer satisfaction and dissatisfaction with technology based service encounters. Given that business to business transactions are the fastest growing segment of technology driven services (Hof – 1999). Meutter and his colleagues (2000) suggested investigating what drives business customer satisfaction or dissatisfaction with technology driven services. According to Gonrros (1982) customers distinguish the quality of customer interactions that take place during service delivery (functional quality) and the quality of the outcome the customer receives in the service encounter (technical quality)

Customers perceive the quality of services of internet banking based on the process in which the delivered service is developed and produced. Because

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Content

S.No.	Title	Page no.
334	CHANGES OF CONSUMER BEHAVIOUR Dr. L.Leo Franclin P. Reeta	986-988
335	IMPACT OF COMPUTER ON BUSINESS COMMUNICATION Vignaya.V Rajeswari.V	989-990
336	A STUDY OF CUSTOMER SATISFACTION ON VARIOUS MOBILE OPEATORS Vanitha.R	991-992
337	HUMAN RESOURCE PRACTICES IN TNSTC LTD., KUMBAKONAM DIVISION - A STUDY Dr.J. Manivannan	993-995
338	INNOVATION ON ONLINE RETAIL TRADING K.Tamilselvan	996-997
339	THE ROLE OF WOMEN ENTREPRENEURSHIP IN INDIA M.Mekala	998-1000
340	ANALYSIS OF INDIAN GOVERNMENT DEBT TO GDP-AN OVERVIEW S. Suguna	1001-1004
341	PERFORMANCE OF FINANCIAL MANAGEMENT IN THE INDUSTRIAL SECTOR J.Subashini,	1005-1007
342	A ROLE ON AGRICULTURAL SERVICES MARKETING MANAGEMENT IN INDIA S.Singaravadivel,	1008-1010
343	THE IMPACT OF FOREIGN DIRECT INVESTMENT ON THE INDIAN ECONOMY Ms.S.Srividhya	1011-1014
344	A STUDY ON THE ISSUSES CONFORTING ON THE HANDLOOM INDUSTRY IN TAMILNADU Dr. D. Christy Selvarani, Mrs. A.V. Sophia,	1015-1016
345	A STUDY ON GREEN PACKAGING J.Shanu	1017-1018
346	EMPLOYEE WELFARE MEASURES IN RAMCO GROUP TEXTILES IN TRICHY DISTRICT Shanthi Noble	1019-1021
347	A STUDY ON WOMEN EMPOWERMENT Swarnalatha,	1022-1023
348	MANAGING THE ENVIRONMENT: THE FIRST LESSON OF MANAGEMENT Dr.P.S.Pratheep	1024-1027
349	LEVEL OF CONSUMER AWARENESS OF SOME SALES PROMOTION TOOLS OF SELECTED COSMETIC PRODUCTS WITH SPECIAL REFERENCE TO MALAPPURAM DISTRICT, KERALA Thomas K Varghese,	1028-1031
350	CUSTOMER PERCEPTION TOWARDS INTERNET BANKING: CONTRIBUTING FACTORS G. Suresh Dr. S. Elango	1032-1035
351	A REVIEW ON GREEN ENERGY -A SUSTAINABLE APPROACH R.Mercy	1036-1037
352	NEW TECHNOLOGY IN LOGISTICS MANAGEMENT R.Mohammed Fairose	1038-1040
353	OPERATIONS OF MUTUAL FUND AND ITS PROS AND CONS R. Prince Dr. S. Elango	1041-1042

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Sankhya International Journal of Management and Technology

OPERATIONS OF MUTUAL FUND AND ITS PROS AND CONS

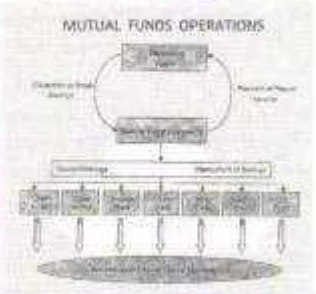
R. Prince
Ph.D Research Scholar,
Dr. S. Elango
Assistant Professor in Commerce,
PG Research Department in Commerce,
Urumu Dhanalakshmi College, Tiruchirappali – 620 019.

Introduction

Mutual funds origined in Belgium, where, in 1882, a company was started to finance investments in national industries associated with high risks under the name of 'Societe Generale de Belgjue'. In the 1860s, this movement spread to England. In 1868, the Foreign and Colonial Government Trust was formed to spread risk for investors over a large number of securities. The history of mutual funds started in the U.S. A from the beginning of the 20th century.

Mutual Fund

A mutual fund is just the connecting bridge or a financial intermediary that allows a group of investors to pool their money together with a predetermined investment objective. The mutual fund will have a fund manager who is responsible for investing the gathered money into specific securities (stocks or bonds). When we invest in a mutual fund, we are buying units or portions of the mutual fund and thus on investing becomes a shareholder or unit holder of the fund. Mutual funds are considered as one of the best available investments as compare to others they are very cost efficient and also easy to invest in, thus by pooling money together in a mutual fund, investors can purchase stocks or bonds with much lower trading costs than if they tried to do it on their own. But the biggest advantage to mutual funds is diversification, by minimizing risk & maximizing returns.



Diversification

Diversification is nothing but spreading out our money across available or different types of investments. By choosing to diversify respective investment holdings reduces risk tremendously up to certain extent. The most basic level of diversification is to buy multiple stocks rather than just one stock.

Open -Ended Scheme:

An open-end fund is one that is available for subscription all through the year. These do not have a fixed maturity. Investors can conveniently buy and sell units at Net Asset Value ("NAV") related prices. The key feature of open-end schemes is liquidity.

Close - Ended Scheme:

These schemes have a pre-specified maturity period. One can invest directly in the scheme at the time of the initial issue. Depending on the structure of the scheme there are two exit options available to an investor after the initial offer period closes. Investors can transact (buy or sell) the units of the scheme on the stock exchanges where they are listed.

Income Funds Scheme:

Invest a major portion into various debt instruments such as bonds, corporate debentures and Government securities.

Growth Scheme:

Growth Schemes are also known as equity schemes. The aim of these schemes is to provide capital appreciation over medium to long term. These schemes normally invest a major part of their fund in equities and are willing to bear short-term decline in value for possible future appreciation.

Bond fund scheme:

It is type of mutual funds whose strength is derived from bond-based investment. The portfolio of such funds Comprises bond - based investments. The

3.3.2. Number of research papers per teacher in the Journals notified on UGC

A JOURNAL OF COMPOSITION THEORY ISSN : 0731-6755

A STUDY ON RECENT TRENDS AND FACILITIES FOR HANDLOOM SECTOR - TAMILNADU

R. ANGAYARKANNI
Assistant Professor in Commerce,
Urumu Dhanalakshmi College, Affiliated to Bharathidasan University, Tiruchirappalli – 19

Dr. S. ELANGO
Assistant Professor in Commerce,
Urumu Dhanalakshmi College, Affiliated to Bharathidasan University, Tiruchirappalli - 19

ABSTRACT

In a world increasingly inclined to mechanisation and standardisation, the handloom sector provides a refreshing change of unique richness of manual skill. The sector represents a country's traditional art form that has been patronised and promoted since long times. This can be analysed along with the development of human history. The State of Tamil Nadu has always been in the forefront of economic growth in the country. The State has made impressive strides over the years to carve out a niche for itself in the fields of engineering, automobiles, textiles, leather, Information Technology, electronic hardware and hi-technology industries. The Gross State Domestic Product (GSDP) stood at 157.85 billion US dollars at constant prices in 2016-17. The industrial GSDP of Tamil Nadu grew at an impressive rate of 8.79% from the year 2011-12 to 2015-16 at constant prices higher than the National average of about 7.6%.

INTRODUCTION

Handloom sector, with its long tradition of excellence in craftsmanship, occupies a place of eminence in preserving heritage of Tamilnadu and plays an important role in the economy of the State. Our state has the pride for its unique Handloom products like Silk Sarees, Cotton Sarees, Dhoties, Lungies, Towels, Furnishing Materials, etc. There are 21.46 lakh handlooms in India, of which 1.89 lakh handlooms are in Tamilnadu, which has a unique characteristic that majority of the handloom weavers are in the Cooperative fold. The State handloom sector provides employment to around 3.19 lakh handloom weavers, which occupies third position in the country in terms of number of handlooms installed and production.

INSTITUTIONS IN HANDLOOM SECTOR OF TAMILNADU

Today, in Tamilnadu, out of 4.27 lakh handlooms, 2.83 Lakh handlooms are in cooperative fold producing about Rs.450 Crore worth of handloom cloth. All these weavers in the State have been organized through 1354 handloom weavers' cooperative societies. The

3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

PERFORMANCE OF HANDLOOM SECTOR WITH SPECIAL REFERENCE TO TAMILNADU

R. ANGAYARKANNI
Assistant Professor in Commerce, Urumu Dhanalakshmi College, Affiliated to Bharathidasan University, Tiruchirappalli - 19

Dr. S. ELANGO
Assistant Professor in Commerce, Urumu Dhanalakshmi College, Affiliated to Bharathidasan University, Tiruchirappalli - 19

ABSTRACT

Handloom sector, with its long tradition of excellence in craftsmanship, occupies a place of eminence in preserving heritage of Tamilnadu and plays an important role in the economy of the State. Our state has the pride for its unique Handloom products like Silk Sarees, Cotton Sarees, Dhoties, Lungies, Towels, Furnishing Materials, etc. There are 21.46 lakh handlooms in India, of which 1.89 lakh handlooms are in Tamilnadu, which has an unique characteristic that majority of the handloom weavers are in the Cooperative fold. The State handloom sector provides employment to around 3.19 lakh handloom weavers, which occupies third position in the country in terms of number of handlooms installed and production.

Key words: Performance, Handloom, Manual skill

INTRODUCTION

In a world increasingly inclined to mechanisation and standardisation, the handloom sector provides a refreshing change of unique richness of manual skill. The sector represents a country's traditional art form that has been patronised and promoted since long times. This can be analysed along with the development of human history.

WORLD SCENARIO OF HANDLOOM SECTOR

The handloom was devised about 2,000 years ago and was brought to England by the Romans. By 1800 it was estimated that there were 250,000 handlooms in Britain. China's textile industry plays an important role in the earing of foreign exchanges and contributes greatly to the development of China's economy. The USA has a decent share of 7% in the global imports of woven textile made-ups and fabrics. The import market for the selected product categories has increased at an annual average growth rate of 12%.

The handloom-sector in Bangladesh used to produce fabric to meet the local demand of low-end fabric. It contains more than 0.18 million handloom units with 0.51 handlooms and 0.88 million workers are employed in this sector. Sri Lankan handloom producers are

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Certificate of Publication

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | E-ISSN 2348-1269, P- ISSN 2349-5138

An International Open Access Journal

The Board of International Journal of Research and Analytical Reviews (IJRAR)

is hereby awarding this certificate to

Dr.N.RAJAMANNAR

In recognition of the publication of the paper entitled

A STUDY ON PART OF THE COMMERCIAL BANKS IN INDIAN ECONOMY

Published in IJRAR (www.ijrar.org) ISSN UGC Approved & 5.75 Impact Factor

Volume 6 Issue 1 February-2019

PAPER ID : IJRAR19ZP013

Registration ID : 196654

EDITOR IN CHIEF

UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.75 Google Scholar

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS | IJRAR

An International Open Access Journal / Approved by ISSN and UGC

Website: www.ijrar.org | Email id: editor@ijrar.org | ESTD: 2014

IJRAR | E-ISSN 2348-1269, P- ISSN 2349-5138

The International Journal of Analytical and Experimental Modal analysis

An UGC-CARE Approved Group - A Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0886-9367 / web : http://ijaema.com / e-mail: submitijaema@gmail.com

IJAEMA

Certificate of Publication

This is to certify that the paper entitled

"MODERN MANAGEMENT PRACTICES IN PUBLIC SECTOR BANKS"

Authored by :

Dr. N. RAJAMANNAR, Assistant Professor

From

Urumu Dhanalakshmi College, Trichy

Has been published in

IJAEMA JOURNAL, VOLUME XI, ISSUE IX, SEPTEMBER - 2019

Michal A. Olszewski Editor-in-Chief

IJAEMA JOURNAL

6.3 IMPACT FACTOR

ISO 7021-2008

http://ijaema.com/

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Management Technology and Engineering

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 2249-7455 / web : www.ijamtes.org / e-mail : editor@ijamtes.org

Address : A14/7, O.A. Armament, Pune, India - 411021

CERTIFICATE OF PUBLICATION

This is to certify that the paper entitled Certificate ID: IJMTE/1901

"COST MANAGEMENT PRACTICES IN MSME'S: A SPECIAL REFERENCE TO MSME'S IN BANGALORE DISTRICT"

Authored by

Dr. N. Rajamannar

From

Urumu Dhanalakshmi College, Thanjavur Rd, Venugopal Nagar, Kattur, Tiruchirappalli, Tamil Nadu

Has been published in

IJMTE JOURNAL, VOLUME IX, ISSUE III, MARCH - 2019

6.3

M. ASHUTOSH MEHATA

7021-2008

OUR HERITAGE JOURNAL

certify to all that

Dr. N. Rajamannar

has been awarded Certificate of Publication for research paper titled

Job Satisfaction of Employees In State Bank of India In Thanjavur District-Tamilnadu

Published in Vol-68-Issue-1-January-2020 of OUR HERITAGE JOURNAL with ISSN: 0474-9030

UGC Care Approved International Indexed and Refereed Journal

Impact Factor 6.6

Editor, OUR HERITAGE JOURNAL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

OUR HERITAGE Journal

certify to all that

Dr. N. RAJAMANNAR

has been awarded Certificate of Publication for research paper titled

Cost Management Practices in Selected Steel Companies in BSE

UGC Care Approved International Indexed and Refereed Journal

Published in Vol-68-Issue-1-January-2020

at OUR HERITAGE JOURNAL with ISSN: 0474-9030

Impact Factor 4.912 (SJIF)

Editor, OUR HERITAGE JOURNAL

OUR HERITAGE JOURNAL

certify to all that

Dr. N. RAJAMANNAR

has been awarded Certificate of Publication for research paper titled

Information Technology on Human Resource Function Tranformation In Selected Automobile Companies

Published in Vol-68-Issue-1-January-2020 at OUR HERITAGE JOURNAL with ISSN: 0474-9030

UGC Care Approved International Indexed and Refereed Journal

Impact Factor 6.6

Editor, OUR HERITAGE JOURNAL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Certificate of Publication

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | E-ISSN 2348-1269, P- ISSN 2349-5138

An International Open Access Journal

The Board of

International Journal of Research and Analytical Reviews (IJRAR)

Is hereby awarding this certificate to

Dr. N. SARAVANAN

In recognition of the publication of the paper entitled

AN ANALYSIS OF FINANCIAL PERFORMANCE OF APOLLO TYRES

Published in IJRAR (www.ijrar.org) ISSN UGC Approved & 5.75 Impact Factor

Volume 6 Issue 1 February-2019

PAPER ID : IJRAR19ZP027

Registration ID : 196398

EDITOR IN CHIEF

UGC and ISSN Approved - International Peer Reviewed Journal, Refereed Journal, Indexed Journal, Impact Factor: 5.75 Google Scholar

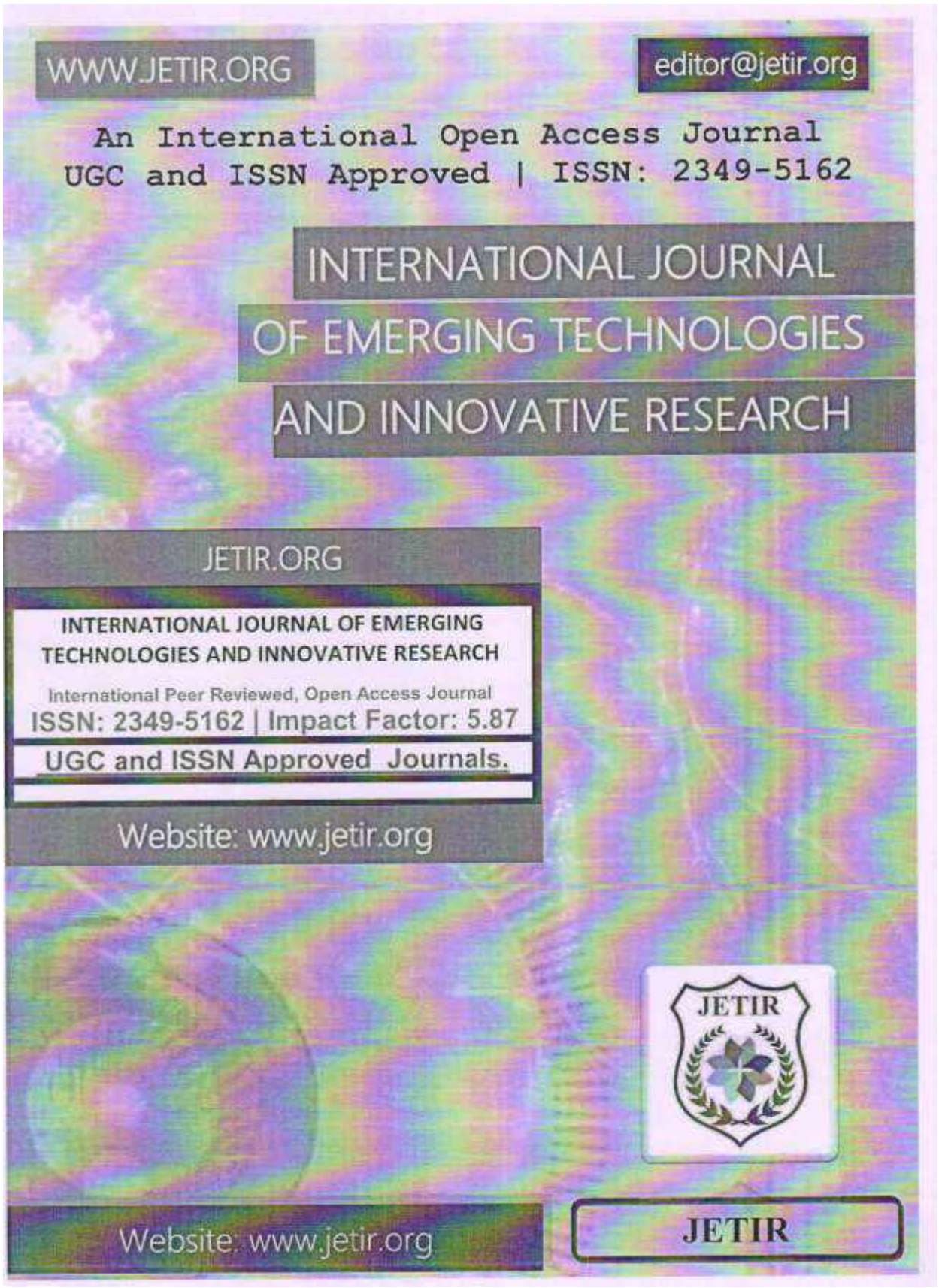
INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS | IJRAR

An International Open Access Journal / Approved by ISSN and UGC

Website: www.ijrar.org | Email id: editor@ijrar.org | ESTD: 2014

IJRAR | E-ISSN 2348-1269, P- ISSN 2349-5138

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

FACILITIES AND SUPPORTS PROVIDED BY THE GOVERNMENT TO THE DEVELOPMENT OF THE INDIAN HANDLOOM SECTOR

[1]R.ANGAYARKANNI [2]Dr.S.ELANGO
Assistant Professors in Commerce,
Urumu Dhanalakshmi College,
Tiruchirapalli – 19

ABSTRACT: Textile sector is one of the largest source of employment generation in India, it employs over 4.5 crore people directly. The Government of India has formulated numerous policies and schemes, aiding financial security as well as social security to the handloom weavers and handicrafts. To promote e-marketing of handloom products, 21 e-commerce entities have been engaged for online marketing of handloom products. Handloom industry plays vital role to reduce poverty, increase employment, and enhance household income and consumption in the country. Government's efforts made handloom sector form a priceless part of the generational heritage and demonstrates the fruitfulness and multiplicity of our nation and the talent of the weavers.

Key words: Facilities, Textile, Handloom, e-marketing

1. INTRODUCTION

Indian Textile Industry is one of the largest industries in the world. Textile sector is also one of the largest source of employment generation in India, it employs over 4.5 crore people directly. India has the second largest manufacturing capacity globally. Abundant raw material, skilled manpower and lower cost of production are some of the key features that contribute to the success of Indian textile industry. The demand for textiles and garments in India comes from three major segments – household sector, non-household sector (institutional, industrial and technical) and export sector. Household sector consumes the largest share of textiles and garments in India (60%), followed by the non-household sector (21%), and then the exports sector (19%). To enable the effective supply of handlooms to the country, the Government of India has formulated numerous policies and schemes, aiding financial security as well as social security to the handloom weavers and handicrafts.

Key factors to promote Indian Textile Industry:

1. Innovative marketing strategies
2. Diversification of product
3. Enhancement of textile oriented technology
4. Quality awareness
5. Intensifying raw materials
6. Growth of productivity
7. Increase in exports
8. Financing arrangements
9. Creating employment opportunities
10. Human Resource Development

Government of India has also tuned the functions of the TRA (Textile Research Associations) to find new ways for promotion of Textile Industry in India. One of the principal targets of the government policy is to enhance the quality and production of cotton and man-made fibre. Ministry of Agriculture, Ministry of Textiles, cotton growing states are primarily responsible for implementing this target. Government also uses IT (Information & Technology) to establish a sound commercial network for the prosperity of textile industry. Government has adopted some effective policies for the right utilization of the manpower for the prosperity and development of the textile industry. Government of India is also trying to encourage talented Indian designers and technologists to work for Indian textile industry and accordingly Government is setting up venture capital fund in collaboration with financial establishments.

Major acts relating to Indian Textile Industry

1. Central Silk Board Act, 1948
2. The Textiles Committee Act, 1963
3. The Handlooms Act, 1985
4. Cotton Control Order, 1986
5. The Textile Undertakings Act, 1995

Government of India is earnestly trying to provide all the relevant facilities for the textile industry to utilize its full potential and achieve the target.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Economics

Certificate

ISSN 2230-7850

Impact Factor 2.1506(UIF)
RNI: MAHMUL 2011/38595

Indian Streams Research Journal

International Recognized Multidesciplinary Research Journal

This is to certify that our Review Board Accepted Research Paper of Dr. /Shri. /Smt.: R. Poorani and Kamar Jahan Topic:- Impact Of Mgnregs On Agricultural Labourers. College:- Government Arts College For Women (A) Pudukkottai. The Research paper is Original & Innovative it is Done Double Blind Peer Reviewed. Your Article is Published in The Month of June Year 2014

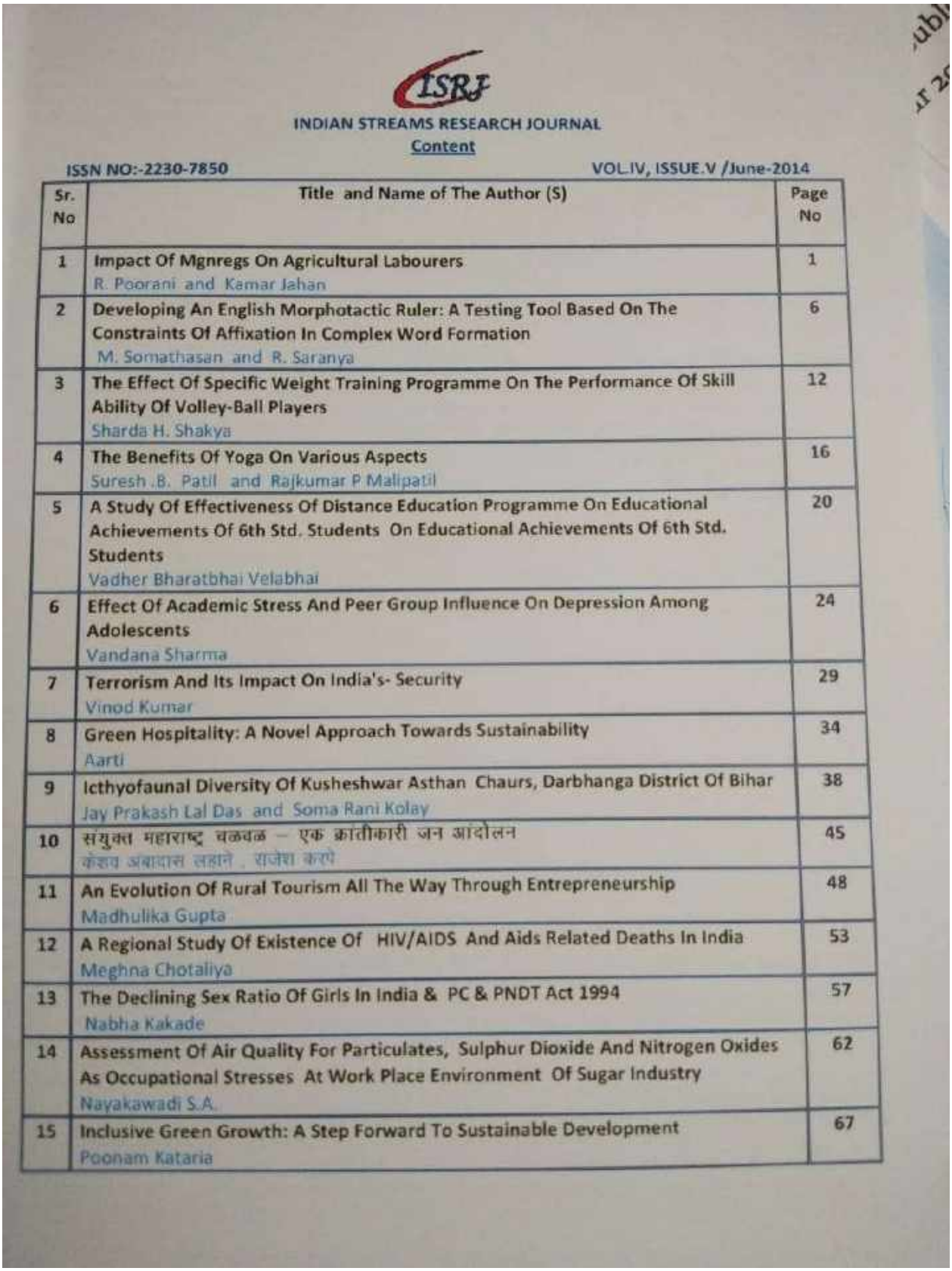
Authorized Signature

Laxmi Book Publication
258/34, Ravivar Peth, Solapur-413005 Maharashtra India
Contact Detail: +91-0217-2372010 / 9595-359-435
e-Mail: ayisrj2011@gmail.com
Website: www.isrj.net

Laxmi Book Publication's

Editor-in-Chief

3.3.2. Number of research papers per teacher in the Journals notified on UGC



INDIAN STREAMS RESEARCH JOURNAL

Content

ISSN NO:-2230-7850 VOL.IV, ISSUE.V /June-2014

Sr. No	Title and Name of The Author (S)	Page No
1	Impact Of Mgnregs On Agricultural Labourers R. Poorani and Kamar Jahan	1
2	Developing An English Morphotactic Ruler: A Testing Tool Based On The Constraints Of Affixation In Complex Word Formation M. Somathasan and R. Saranya	6
3	The Effect Of Specific Weight Training Programme On The Performance Of Skill Ability Of Volley-Ball Players Sharda H. Shakya	12
4	The Benefits Of Yoga On Various Aspects Suresh .B. Patil and Rajkumar P Malipatil	16
5	A Study Of Effectiveness Of Distance Education Programme On Educational Achievements Of 6th Std. Students On Educational Achievements Of 6th Std. Students Vadher Bharatbhai Velabhai	20
6	Effect Of Academic Stress And Peer Group Influence On Depression Among Adolescents Vandana Sharma	24
7	Terrorism And Its Impact On India's- Security Vinod Kumar	29
8	Green Hospitality: A Novel Approach Towards Sustainability Aarti	34
9	Icthyofaunal Diversity Of Kusheshwar Asthan Chaurs, Darbhanga District Of Bihar Jay Prakash Lal Das and Soma Rani Kolay	38
10	संयुक्त महाराष्ट्र चळवळ – एक क्रांतीकारी जन आंदोलन केशव अबादास लहाने , राजेश करपे	45
11	An Evolution Of Rural Tourism All The Way Through Entrepreneurship Madhulika Gupta	48
12	A Regional Study Of Existence Of HIV/AIDS And Aids Related Deaths In India Meghna Chotaliya	53
13	The Declining Sex Ratio Of Girls In India & PC & PNDT Act 1994 Nabha Kakade	57
14	Assessment Of Air Quality For Particulates, Sulphur Dioxide And Nitrogen Oxides As Occupational Stresses At Work Place Environment Of Sugar Industry Nayakawadi S.A.	62
15	Inclusive Green Growth: A Step Forward To Sustainable Development Poonam Kataria	67

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ED0115098

ICEHM

International Centre of Economics, Humanities & Management

www.icehm.org

Certificate of Participation

This Certificate is awarded to

Kamar Jahan, K

Associate Professor, PG & Research Department of Economics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India

for Paper Titled

Higher Education in India: Issues and Challenges

in technical presentation, recognition and appreciation of research contributions to

International Conference on Humanities, Literature and Management (ICHLM'15)

ICEHM Chair

Jan. 9-10, 2015
Dubai (UAE)

3.3.2. Number of research papers per teacher in the Journals notified on UGC

TRADE UNION IN PUBLIC SECTOR ENTERPRISES: AN ECONOMIC ANALYSIS

B. LAKSHMI NARASU
Research Scholar (Full Time), PG and Research Department of Economics,
Urumu Dhanalakshmi College, Tiruchirappalli

DR. K. KALIYAMURTHY
Associate Professor& Head, PG and Research Department of Economics,
Research Adviser in Economics and Management, Urumu Dhanalakshmi College,
Tiruchirappalli

ABSTRACT

Trade union movement in India was not present in India till the Independence movement started gaining traction amongst the masses. Gandhiji and the lea ders struggling for independence at that time understood the importance of organising labour in unions and the satyagraha based strikes created an awareness amongst the masses. This awakening of labour lead to widespread unity amongst the working class. This also helped Gandhi and other leaders to create the awakening for Independence and unity across the populace of India. With Independence of India from the yoke of British rule and abolition of Zamindari and princely states, the Union of India set out in its constitution various labour welfare articles which gave an impetus to the Trade Union movement in organised and unorganised sectors. Many of the original constitutional and labour Acts were socialist and welfare natured. But with the growth of economy, changing demographics and technology, a change in labour laws that can bring the aspirations of labour and management together would be a game changer. The capitalist and the socialist forms of government both are facing tremendous pressure across the globe. Therefore, it has become inevitable for the management and labour union to understand that the environment of labour economics has changed. Also the government should move away from being the protector of labour to facilitator of business and labour. With such a change in scenario and participation of labour union in activities of management, the labour union would gain to have a greater say, in not only in the welfare of labour, but also in the management.

Keywords: Trade union movement, demographics, organised, unorganised, management.

INTRODUCTION

Trade union is an association that signifies the interests of its workers in talks about improving working environments with employers and government. Each employee who

3.3.2. Number of research papers per teacher in the Journals notified on UGC

THE BUYING BEHAVIOUR OF FARMERS TOWARDS MICRONUTRIENTS IN THE DIGITAL AGE: A REVIEW

Mrs. N. U. RAMYA
Research Scholar, Ph. D., in Management (Part Time) Urumu Dhanalakshmi College (Affiliated to Bharathidasan University), Tiruchirappalli, Tamil Nadu, India

Dr. K. KALIYAMURTHY
Associate Professor & Head, Research Advisor in Economics & Management, PG & Research Department of Economics, Urumu Dhanalakshmi College (Affiliated to Bharathidasan University), Tiruchirappalli, Tamil Nadu, India

ABSTRACT

In managing in any business, production and marketing aspects acquire significance and of course, marketing is tantamount to production. The primordial objective of marketers is to facilitate the buyer right from the decision to buy till the actual purchase of the product. India being a rural based economy, vast amount of resources is still untapped and any attempt on marketing of agricultural products is nitty-gritty. For the farming community is said to be a fulcrum of an economy and they have to act prudently in their farming operations with the resources especially information available on hand. Followed by agricultural and industrial revolution, information revolution is sine qua non and has been pervasive and sweeping the world. (Toffler, Alvin 1980). Even word-of-mouth promotion and referrals have transformed into online in the form of testimonials and reviews. This approach considerably influences a prospective buyer in implementing his or her purchase decision. They believe in reviews from online as much as a personal reference from peer group. Regarding the purchase pattern of farmer buyers, macro and micronutrients find prominent place and the awareness about micro nutrients according to one study is very less. As micronutrients deficiencies affect the yield and nutritional quality of the crops, micro nutrients plays an essential role in improving the crop production. Thus by using appropriate digital technologies the cost of production can be minimised paving way for cost effective approach. This article summarizes the avenues and sources of information and facilities to the farmers with reference to micronutrients in the digital era.

KEY WORDS: Buying Behaviour, Micronutrients, Digital era.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Research article Available online www.ijsrr.org ISSN: 2279-0543

International Journal of Scientific Research and Reviews

A Study on Online Buyer Behavior Towards Ticket Booking in Tiruchirappalli City

S. Sanath Kumar[*1] and K. Kaliyamurthy[2]

[1*] Department of Management Studies, Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu, Mobile: 9944877097 e-mail: sanathbe.kumar@gmail.com
[2]P.G. & Research Department of Economics, *Research Advisor in Economics & Management*, Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu, Mobile: 94432 73 872
e-mail: lakshmi.kaliya@gmail.com

ABSTRACT

Currently, Internet is treated to be the greatly used information and communication mechanization by companies; this can simplify the transaction processes and strengthen the relationship between the organizations and customers. This paper experientially analyses and verifies the impact of online-ticketing approach on customer satisfaction: a simple random sample of passengers of Tiruchirappalli city that had booked tickets in the last 12 months through companies offering online-ticketing services. The analysis disclosed that the determinants namely, on-demand, cashless, all in one, privacy are exploited as solicitous factors and determinants such as less expensive, secure, situation, time saving are exploited as assent factors. This study would be helpful to online based service providers to meet the requirements of increasing level of service.

KEY WORDS: Ticket booking, Online booking, Customer Technical Support; Infrastructure; Security; User-Friendliness

*Corresponding Author

S. Sanath Kumar

Research Scholar,
Department of Management Studies,
Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu,
e-mail: sanathbe.kumar@gmail.com Mob No - 9944877097

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Human Resource Management and Research (IJHRMR)
ISSN (P): 2249-6874; ISSN (E): 2249-7986
Vol. 8, Issue 5, Oct 2018, 19-26
© TJPRC Pvt. Ltd.

TRANS STELLAR
Journal Publications • Research Consultancy

EXPERIENCING ORGANIZATION CLIMATE BASED ON HUMAN RELATIONS AND WITHDRAWAL BEHAVIOUR IN SELECTED BPO, TIRUCHIRAPPALLI

M. MONIKA[1] & K. KALIYAMURTHY[2]

[1]Research Scholar, Department of Management Studies, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[2]Head and Associate Professor, Research Advisor in Economics and Management, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

ABSTRACT

Research on organizational climate has shown significant development in the recent past. The purpose of the present study is to propose a model that examines the relationship between human relations and withdrawal behavior of employees with an organizational climate in selected BPOs in Tiruchirappalli. A data of 220 employees were collected from middle and senior level employees from a structured survey instrument. The collected responses were subsequently tested by using structural equation modeling (SEM). Further, the hypothesized model was tested by path modeling. The finding suggests that Work Environment, Training and autonomy was the strongest predictors of organizational climate. The role of organizational climate among employees in BPOs is essential. The present study is an earnest effort in this direction to analyze the link between organizational climate and human relations related dimensions. Organizational climate also can be considered as a measuring yardstick to predict the reason for absenteeism, lateness and turnover intention.

KEYWORDS: Organizational Climate, Human Relations, Autonomy, Integration, Participation, Supervisory Support & Training and Welfare

Received: Aug 19, 2018; **Accepted:** Sep 08, 2018; **Published:** Sep 12, 2018; **Paper Id.:** IJHRMROCT20183

Original Article

INTRODUCTION

In today's turbulent and dynamic environment, the vital development and survival of an organization depend on the knowledge, skills, and capabilities of its employees. At the same time, on the other hand, both depend even more on directing those skills and knowledge towards reaching organizational goals. Only satisfied employees will be dedicated and committed to their work, demonstrate creativity, innovation and aim towards meeting the needs and achieve maximum productivity. Thus, in today's times of fierce global competition, almost all organizations seek the opportunity to increase employee commitment, satisfaction and reduce employee withdrawal behavior and direct them to achieve organization objectivities and goals. For organizations managers, this means employing classical as well as motivational measures in the process of creating satisfied organization climate.

The concept of withdrawal behavior consists of factors related to the intention to leave the organization or intention to quit the organization. In more specific, employees considered looking for other organization to join

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Social Sciences
Vol. 8 Issue 10, October 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

EMPIRICAL STUDY ON MANAGERIAL FACTORS INVOLVED IN ORGANISATIONAL CLIMATE: A CASE OF SOUTHERN RAILWAY, GOLDEN ROCK, TAMILNADU

M. Monika *

Dr. K. Kaliyamurthy **

Abstract

This study examines the organizational climate – a key factor for the sustainable development of workplace. Organizational climate consists of seven factors namely communication, training and development, teamwork, role and responsibility, work environment, safety measures and human relations. The population of the study consists of employees working in Southern Railway, Golden Rock, Tiruchirappalli. The sample size for the study is 423, by adopting proportionate stratified random sampling technique. Analysis was used to examine the association and significant relationship between selected personal profile of the respondents with organizational climate factors and its inter-relationship in study unit. The organisational climate factors provided by the organization enable employees more committed and contributed to better performance and satisfaction. Communication motivates to work in a challenging work environment.

Key factors: Organisational Climate, Communication, Training and Development, Teamwork, Role and Responsibility, Work Environment, Safety Measures and Human Relations.

* **Ph.D. Research Scholar (FT), Department of Management Studies, Urumu Dhanalakshmi College, Tiruchirappalli – 19, TamilNadu, India**

** **Head and Associate Professor, Research advisor in Economics and Management, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli – 19, TamilNadu, India.**

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Social Sciences
Vol. 8 Issue 10, October 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

ANALYTICAL STUDY ON EMPLOYEES' MOTIVATION IN SOUTHERN RAILWAY, GOLDEN ROCK, TIRUCHIRAPPALLI, TAMIL NADU

Ramya. T[1]
Dr. K. Kaliyamurthy[2]

ABSTRACT

In the workplace, motivation is important to induce an employee to contribute to his maximum capabilities. Every employee has certain unfulfilled desires. The employer, by fulfilling the needs of the employee, motivates him to do his best. To study the level of employee motivation through the financial and non-financial factors acquires significance. When an organization has properly motivated staff, there will be better inter-personal relationships. The schedule was used for collecting data related to study. The sample of the study is 50 employees working in the study area. After the data collection was over, the researcher analyzed the data with the help of Statistical Packages such as SPSS 20 (Statistical Package for Social Science)). The results of the study have indicated that the salary and compensation, achievement motivation, promotional policy, organizational policy, work environment, relationship with superiors, organization facilities have motivated the employees for good performance.

[1] Research Scholar, Department of Management studies, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli
[2] Associate Professor and Head, Department of Economics, & Research advisor in Management, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-04, Issue-06, Sep 2018

Motivation in The Workplace to Improve The Employee Performance

Ramya. T, Research Scholar, Department of Management studies, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India. ramya_thangaraj@yahoo.in

Dr. K. Kaliyamurthy, Associate Professor and Head, Department of Economics & Research advisor in Management, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India. lakshmi.kaliya@gmail.com

ABSTRACT - Maximum employees need the motivation to feel good about their occupations and perform optimally. Some employees are financially motivated while others find recognition and rewards personally motivating. Levels of Motivation within the workplace have a straight impact on employee productivity. Workers who are motivated and happy about their jobs carry out their responsibilities to the best of their ability and production numbers increase as a result. Employee motivation has always been an essential problem for leaders and managers. Unmotivated employees are likely to occupy little or no strength in their jobs, avoid the workplace as much as possible, exit the organization if given the opportunity and produce low quality work. On the other hand, employees who sense motivated to work are likely to be persistent, creative and productive, turning out high quality work that they willingly undertake. Employers need to get to know their workers very well and use different procedures to motivate each of them based on their personal wants and needs. In this paper, we would like to accent on the importance of motivation in the workplace to recover the employees' performance and productivity.

KEYWORDS: Employee Motivation, Importance, Performance.

I. INTRODUCTION

Motivation grades from the interaction of both conscious and unconscious factors such as the intensity of desire or need, incentive or reward worth of the goal, and expectations of the separate and of his or her peers. These factors are the reasons one has for behaving a certain way. Internal and external factors that motivate desire and energy in people to be frequently interested and committed to a job, role or subject, or to make an struggle to attain a goal.

Most employees need the motivation to feel good about their jobs and perform optimally. Some employees are money motivated while others find recognition and rewards personally motivating. Motivation levels in the workplace have a direct impact on employee productivity. Employees who are motivated and eager about their jobs carry out their duties to the best of their ability and production numbers increase as a result. An incentive is a motivating impact that is designed to drive behavior and motivate employees to produce quality work.

Employers use different types of incentives to increase production. Employee incentives come in a selection of forms including bonuses, cash and travel perks, paid time off. Incentives drive employee motivation because they offer workers more to strive for than a regular pay check. Many employees want recognition from their employers to produce quality work. Recognition and employee reward systems classify the employees who perform their jobs well. Acknowledging a job well done makes employees feel good and encourages them to do good work. Employers recognize workers by tracking progress and providing feedback about improving over time. Public recognition is also a motivating factor that drives worker productivity.

II. REVIEW OF LITERATURE

Amardeep Kaur Ahluwalia & Kamal Preet (2017) conducted a study on the impact of desire, need, obligation and overall commitment to extrinsic, intrinsic and work motivation. The research size comprises 230 teachers (130 from the private university and 150 from the state university) the researcher compares the state and private university teachers performance and finally founded that state university teaching staffs are motivated intrinsically and the private university teachers are motivated extrinsically. Intrinsic motivation creates a positive influence on organizational commitment and extrinsic motivation creates a positive influence on organizational commitment and work motivation.

Seejeen Park (2017) constructed and evaluating the subordinate performance and carry out their performance ratings. Most of the organization performs accurately in ratings. The researcher focused on past research for encouraging for product appraisal. The study extends the

 DOI : 10.18231/2454-9150.2018.0713 © 2018, IJREAM All Rights Reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Management (JOM)
Volume 5, Issue 4, July – August 2018, pp. 125–137, Article ID: JOM_05_04_014
Available online at
http://www.iaeme.com/JOM/issues.asp?JType=JOM&VType=5&IType=4
Journal Impact Factor (2016): 2.4352 (Calculated by GISI) www.jifactor.com
ISSN Print: 2347-3940 and ISSN Online: 2347-3959
© IAEME Publication

APPROACHES TO CONSUMER BEHAVIOUR -A REVIEW

NU. Ramya
Research Scholar, Ph.D., Management,
Urumu Dhanalakshmi College, Tiruchirappalli, India

Dr. K. Kaliyamurthy
Associate Professor & Head., Research Advisor in Economics & Management,
PG & Research Department of Economics,
Urumu Dhanalakshmi College, Tiruchirappalli, India

ABSTRACT

Realizing, and as well, analyzing the purchasing behaviour of consumer is the core constituent to provide efficient consumer satisfaction. A consumer is not only purchasing a produce, but he alone determines the victory of a firm. Hence for every successful firm, there exists a consumer support behind it. That support is technically called behavioural support and behind the support there is lot of theories to analyze and discuss the various concerns involving to consumer behaviour.

Since World War II, taking into account the dire need of the public, the marketers started to market and encourage the produce what the consumers needed, instead of producing what the companies prefer. The concept of understanding the behaviour of consumer emerged in late 1940's from which it has taken into so many dimensions. This is now known as "modern concepts of marketing". At present, Consumer behaviour is commonly influenced by social, psychoanalytic and economical approaches. Each factor openly or not directly accounts to the characteristics of a buyer. Hence it is vital to be aware of the role of factors influencing the buying nature of consumer. The main iota of this research paper is to analyze the theoretical underpinnings and factors involved in consumer behaviour and its implications, in the light of developments crop upped in the recent past.

Key words: Consumer behaviour, Models, Psychoanalytic, Theories.

Cite this Article: NU. Ramya and Dr. K. Kaliyamurthy, Approaches to Consumer Behaviour - A Review, *Journal of Management*, 5(4), 2018, pp. 125–137.
http://www.iaeme.com/JOM/issues.asp?JType=JOM&VType=5&IType=4

1. INTRODUCTION

From bullock cart to modern cars era, each time, the trend of business is changed in tune with the behaviour of consumers. Consumers mind set can be categorized into preferred state and

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJSART - *Volume 4 Issue 4 – APRIL 2018* *ISSN* [ONLINE]: 2395-1052

Economic Performance Of Pses : A Review

B. Lakshmi Narasu [1], K.Kaliyamurthy [2]
[1]Dept of Economics
[2]Associate Professor & Head, Dept of Economics
[1,2] Urumu Dhanalakshmi College,Tiruchirappalli – 19.

Abstract- The Public Sector Enterprises are considered as key instruments of state involvement in economic activities in the developing economies. PSE's are state by itself, they are not mere employment provider but also the manifestation of the government itself in its sphere of work. They provide for the welfare of the people, enhance the living standard of people in and around the PSE directly and indirectly. The advent of PSE has cut down the bureaucratic approach of government, elevated the skill level of employees, integrated data analytics with decision making, enhancing the capacity to analyze and evaluate the risk in the decision making, and a record has brought out substantial improvement in transparency and compliance of all statutory requirements. Technological revolution combined with economic growth has greatly enhanced the capacity of PSEs to work together in cohesion and improve the resource of government and the nation. This paper makes an assessment of the source of some certain indicators from the economic survey 2016-2017.

Keywords- Bureaucratic, Transparency, Cohesion, Enhance

I. INTRODUCTION

When India became independent in 1947, our country faced numerous socio-economic problems that the leaders of the new nation had to deal in a prudent manner. The society at the time of Independence was mainly agrarian with low industrial base & savings and available infrastructure amenities were few and the investment in them was also negligible. The country at the time of independence faced the high level of inequalities in income and employment. There was great inequality in regional balances in the field of economic development. The training, development of man power was also not uniform. Therefore, the intervention of the state in all the sectors of the economy became necessary. The nascent Private Industry at the time of Independence did not have either the necessary resources or the managerial and scientific skill, to undertake risks with large long-gestation investments was very low. The primary aim of then Government was a removal of poverty, equitable distribution of income, generation of employment opportunities, removal of regional imbalances, accelerated growth of agricultural and industrial production, better utilization of natural resources and a wider ownership of economic manpower to prevent its concentration in a few hands. Our former Prime Minister Rajeev Gandhi had silently brought in the technological revolution by bringing in Shri. Sam Pitroda (Technical Adviser). They together brought many changes in the field of telecommunication and television. During this period ISRO had also much success in remote sensing and telecommunication launching capabilities. These two events change the way of working of government, revolutionized the telecom network and democratized the working of government in a true sense and involved people in working of government schemes.

II. REVIEW OF LITERATURE

Nagaraj (2006) investigate the long-run performance of the public sector on the source of some particular aspects in relation to economic aggregates, mainly using National Accounts Statistics (NAS). He decided that the public sectors whole steadily rose to the domestic output, even though the public sector share in domestic investments reduced to nearly half. This improvement in the performance has occurred due to rise in the physical efficiency in electricity generation, a fall in the public sector employment and increase the profitability of PSEs.

Mishra and Lakshmi (2005) tried to analyze the performance of PSE's in the era of economic liberalization by using the primary and secondary level data. They revealed that the PSEs have performed well in the period of economic liberalization. PSE's profitability and internal resource mobilization have improved in the post-liberalization period.
Baijal (2002) argued that to ensure a higher level of investment with higher efficiency and productivity, a complete restructuring of the economic industrial policy is required. Therefore, the reform has been undertaken with the objective of efficiency enhancement, domestic and foreign resource mobilization and to generate an adequate level of competitiveness in the economy.

Das (1997) studies the technical aspects, allocation, and scale of the public sector banks. He found a decline in the overall efficiency during 1990-96.This occurred because there was a decline in technical efficiency, both pure and scale. The study pointed out that the deterioration in technical efficiency

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Monika, M. et al., International Journal of Research in Management, Economics and Commerce,
ISSN 2250-057X, Impact Factor: 6.384, Volume 08 Issue 03, March 2018, Page 156-161

Analysis on Organizational Climate and Occupational Stress in GK Sons Engineering Enterprises Pvt. Ltd.

Monika, M.[1] and Kaliyamurthy, K.[2]

[1](Research Scholar, Department of Management studies, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India)

[2](Associate Professor and Head, Department of Economics & Research advisor in Management, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India)

Abstract: *Present study is investigated to analyse the occupational stress and its influence on organizational climate among the employees of GK Sons Engineering Enterprises Pvt. Ltd., Trichy, TamilNadu. There are two questionnaires were used collected data such as, Organizational Climate and Occupational Stress from 115 Employees working in the Study area. Statistical tools like Chi-square test and One-way ANOVA method were used to analyse the data. Results of this study show that there is negative relationship between personal variables (namely age, monthly income and educational qualification) of the employees and each five dimensions of organizational climate and occupational stress (namely Organisational Climate: Communication, Welfare Measures, Role and Responsibility, Quality of work-life and Job satisfaction. Occupational Stress: Work Pressure, Relationships, Psychological Well-being, Control over Stress and Work-Life Balance) in the study area.*

Keywords: *Organizational Climate, Occupational Stress, Communication and Job Satisfaction.*

I. INTRODUCTION

Organizations differ in physical structures as well as in attitudes and behaviours they provoke in people. These differences are related to differing individual opinions. Climate means all those characteristics that distinguish one organization from the other and influence the behaviour of the people in the organization. It not only affects the behaviour of the individual employees but also how organizations interact among themselves. At an individual level the climate is an individual's description of the social setting or the context of which the person is the part. Organizational climate is about the perceptions of the climate environment and about absolute measures (Priyanka Sharma, 2013). The essential components that collectively represent the climate of an organization can be summed up or below: dominant orientation is an important determinant of climate of an organisation. The social relationships are replicated in the way informal groups are formed and functioned. The organisational climate also depends upon how effectively conflicts are managed. Sufficient freedom to work and exercise authority will lighter the burden of higher executives. The control system of an organisation also plays an important role. Rigid control will result in minimum scope for self-regulation. Decentralization of authority results in an atmosphere of participative decision making but centralization of authority results in less participation. The management style also effect organisational climate task oriented approach means less employee morale. On the other hand, relation oriented approach will improve the team spirit in the organisation and the aspiration of the work will be given due importance. The rewards and punishments are also important for organisational climate (Monika, 2016).

Stress is the physiological or psychological response that occurs when an separate involvements imbalance between the demands placed on him and his capability to meet it. Conditions that cause this are called as stressors or loads. The factors that contribute towards stress of an employee are the following. (a) Pressure to meet the deadline, (b) conservation of company policies, (c) complex lifestyle, (d) group and political pressures and (d) increasing cost of living. The effects of stress can be both positive and negative. When a situation offers an individual an opportunity to gain something, it is said to be positive. It acts as a motivator and fuel and drives the person beyond the common place. Stress is negative, when it is associated with disease and loss of health. Occupational stress denotes the employees' mental state aroused by a job situation perceived as presenting excessive demands. If stress is controlled, it strengthens behavior, otherwise it can cause diseases like high BP, ulcer, asthma and the like. The extent of stress a person would experience from a job factor or situation depends upon his personal characteristics and his cognitive appraisal of the job factor and the resources available to meet his job requirement. Other factors that can be regarded as stressors are excessive workload, pressure of meeting deadlines and achieving certain targets. If a person experiences much stress at work, it can be carried over to home, and likewise, stress experienced at home or non-work situations, can be carried over to the workplace. In either case, the result will be negative (Vivekanandan et. al., 2016).

This work is licensed under a Creative Commons Attribution 4.0 International License

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Employee Motivation in the Workplace and the Employees' Performance

Ramya T[1], Kaliyamurthy K[2]
[1]Dept of Management studies
[2]Associate Professor and Head,Dept of Economics & Research advisor in Economics & Management,
[1,2]Urumu Dhanalakshmi College, Tiruchirappalli-620 019 – India.

Abstract- *In the present study most of the employees need motivation to impress good about their jobs and perform optimally. Some employees like financial motivation and others are motivated through non-financial factors like recognition and rewards for personally motivating the employees. Motivational levels within the workplace have a direct impact on employee productivity. Employees are motivated and have indifferent about the jobs to carry out the responsibilities for the best ability and to increase the numbers of production as a result. On the other hand, employees are felt motivated in work are likely to be determined, too creative and productive, turning out great quality of work that they freely undertake. Employers need to know their employees very well and use different strategies to motivate each of them based on their personal wants and needs. In this paper we like to give importance to motivation employees in the workplace for improving the employee performance and productivity. Even we would like to present the theories and techniques of the motivation in the workplace.*

Keywords- Employee Motivation, Performance, Recognition.

I. INTRODUCTION

Motivation is the utmost important matter for every organization public or private organizations. For the success of any organizations motivation play an important role. All organization comes across the matter of motivation whether they are in the public or private organization (Chintallo & Mahadeo, 2013). So the "employees motivation means the procedure which the organization is inspiring their employee with the nature of rewards, bonus etc. for achieving the organizational goals. Now a day's the organizations are easily change their material, needs, goods and services with other organization and countries. But the only one resource which is not easily exchangeable is human resources. The human resources are the more important and most competitive assets for any organization that cannot be exchangeable so the motivation is the main factor that affects the human resources of the organization. The organizations are motivating their employees for the achievement their goals and for better performance. In fact motivation is the greatest tool for greatest performance. Now, there are many deliberations about motivation and the relationship of employee's efficiency and the organizational efficiencies. According to Iqbal et al. (2012), Employee's motivations are the ability to collect the participation for the employee's performance and they are difficult to the tasks given by the manager for the purpose of get maximum productivity. The researcher is more concerned on increase in productivity, excellence and working capability of employees. Employee's needs and wants having more important in research history. Motivation is one of the best terms for psychology and most of the mangers want a maximum output. They grab with a good way and motivate their employee in hammer way and also increase the relationship between employee and mangers, it also boosts up the organization to demand for offer a job security, health security and promoting safety. And nowadays private organizations also provide the promoting safety and health plan, and emergency fim and accident cover's benefits. Another way used to monitor the employee performance is Performance Appraisal. The performance appraisal is monitoring the quality of performance of an employee. The monitoring of employees performance by using performance management system:

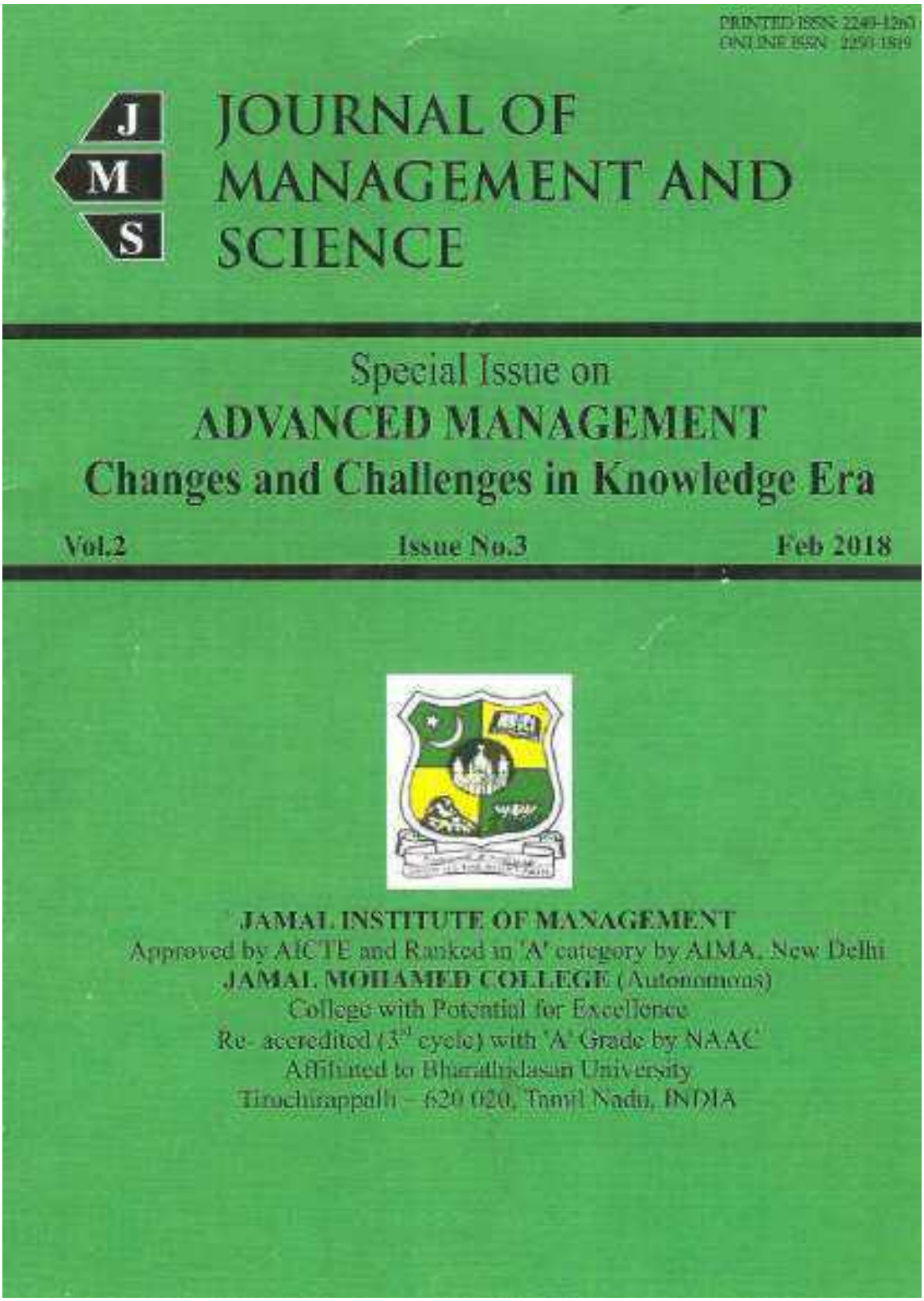
1. Organization objective;
2. Day by day performance;
3. Professional development;
4. Rewards and incentives.

In simple word, the appraisal is the debt in individual performance in an efficient way, performance.

II. CONCEPT OF MOTIVATION

The word motivate is regularly used in the framework of management as a transitive verb motivation is by consequence to something done by one person or group person. A further consequence is the usage of motivated parties needs to be induced to perform some action or expend a degree of effort which they would not otherwise wish to do. This is an issue of dynamic importance to the success of profitable groups is highlighted by Lawler (1973): "Those

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

AGRICULTURAL MARKETING ASPECTS OF ORGANIC PRODUCTS

UN. Ramya
Research Scholar, Ph.D., in Management(Part Time)Urumu Dhanalakshmi College, Tiruchirappalli.

Dr. K. Kaliyamurthy
Associate Professor & Head ,Research Advisor in Economics&Management,PG &Research Department of Economics,Urumu Dhanalakshmi College , Tiruchirappalli

Abstract
Nowadays larger sections of society in India, is opting for organic based food, mainly because of good health and long life. They very well know the value of organic food products, because of its nutritional contents, pesticide free and eco-friendly method of agricultural production. Hence it is time to focus on agricultural marketing with special impetus to rural marketing. The troubleshooting is marketing organic products competing with long marketed in-organic products on low cost and easy and quantitative availability in market. But, this can be overcome with creating awareness on farming community apart from educating dealers and stockiest for marginal turnover for their investment. Of late, organic farming has been given an impetus to agricultural farming activities

Keywords: Organic forming, Organic food, Marketing

Introduction
India had exported Rs. 2,478 crores worth of organic commodities in 2016-17'. India has been ranked first in organic farming (ICRIER) with 5,85,200 organic farmers in 2015. The market size of packaged organic foods and beverages accounts to Rs.378 crores in 2017 and expected to grow at a compound annual growth rate of more than 15% from 2017-2020 (IFOAM) thereby significantly ensuring the rapid growth of organic farming and its utility in agricultural farming. Hence an attempt has been made to study the agricultural marketing of organic products especially micro nutrients as it ensures the growth of local economy in particular in particular and the economy as a whole in general. The present study consists of two sections. The first section deals with introductory and conceptual framework and the second section presents the agricultural marketing aspects of organic products with special reference to micronutrients.

Conventional In-organic Vs Organic farming:
It is better to understand the basic differences between in-organic and organic farming in terms of the methods used for growing the crops for its nutritional value. In olden days, say about 50 years back, it was recorded in history that one can see in the early hours of the day, i.e., when the Sun dawn on the east spreading its rays to the earth, farmers with bullocks and plough march towards their field with pride and dignity to sow, grow and harvest rich nutritional value food grains for their farming community as well for the public in larger extent. The cow dung and urine, harvest straw remains in the farm were of best organic fertilizer. The 'Cowmiyam' in our society played a vital role for pesticide control device for standing crops in agricultural field. However, due to the great war against poverty and famine, to fill gap of the shortage of food, the Governments started to modernize farming and thus switched over to modern farming using in-organic fertilizers, pesticides, insecticides etc., and ridiculously it is called now conventional farming!

Long run hereditary cultivation system:
It is worthwhile to mention here, that when the day we had thrown out the bullocks from the villages, we had thrown out the entire village economy to the dust and bin. The

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN: 2321-7782 (Online)
e-ISJN: A4372-3114
Impact Factor: 6.047

Volume 5, Issue 8, August 2017

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

The Impact of Intrinsic and Extrinsic Rewards on Employee's Performance

Ramya. T[1]
Research Scholar,
Department of Management studies,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli- 620 019 – India

Kaliyamurthy. K[2]
Associate Professor and Head, Department of Economics
& Research advisor in Management,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli- 620 019 – India

Abstract: *The purpose of the study is to analyses the influence of intrinsic and extrinsic reward motivation of employees in Anand engineering Pvt. Ltd, Tiruchirappalli, Tamil Nadu, India. The schedule was used for collecting data related to study. The sample of the study is 50 employees working in the study area. Statistical tools used for analyzing the data are chi-square test and one way ANOVA test. Result of the study shows that there is no relationship between personal details (Age, Monthly Income, Educational Qualification) and each factors of (Intrinsic Reward: Empowerment, Recognition, Challenging Task, Appreciation Extrinsic Reward: Pay/Salary, Fringe Benefit, Bonus, Promotion) of the study.*

Keywords: *Intrinsic Reward, Extrinsic Reward.*

I. Introduction

Motivation is a factor that bring a driving force on our actions and work. According to Baron (1983), motivation is an accumulation of different processes which influence and direct our behavior to achieve some specific goal. It is such a today's dynamic environment that explicitly creates and encompasses a positive impact on job. Within an organization, the best performance is feasible with most committed employees that can only be achieved through employee motivation.

Extrinsic Motivators are the sources of need to satisfaction the associated with tangible rewards Such as pay, promotion, working conditions, physical surroundings, job security, are not be determined by the individual but determined by the organizational. Intrinsic Motivators are the sources of need to satisfaction, the drive from the individual relation to the job itself and it involves job factors which reward the needs of the individual to reach his aspirations and an example are achievement, recognition, responsibility, advancement. Employees motivation is a devise to make the employees energetic and persistence on their work organization goals are easily achieved. From the related literatures the researcher identified some employees' motivational factors Self-Efficacy, Reward, Intrinsic, Extrinsic, Empowerment are implemented by the organization for achieving the , Goal setting by the organization (Ramya 2017).

Bruzelius and Skärvad (2004) investigate that the employees motivated in the work is more effective and more supportable to the values and goals of the organization, they need to get compensation through rewards. The reward structure should be encourage the skilled employees to stay within the organization and for increasing the motivation, productivity and commitment to the organization. (Brickley et al. 2002) Motivation is one of the most important factors on issues related to human resources management (HRM) and organizational behavior management (Latham, 2007). Koestner & McClelland (1990), make a research and found that intrinsic motivation has led to the conclusion and that will be greatest under conditions that foster feelings of challenge, competence, and self-determination.

© 2017, IJARCSMS All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Asian Research Consortium

Asian Journal of Research in Social Sciences and Humanities
Vol. 7, No. 8, August 2017, pp. 217-227.

ISSN 2249-7315
A Journal Indexed in Indian Citation Index
DOI NUMBER: 10.5958/2249-7315.2017.00418.X
UGC APPROVED JOURNAL

Asian Journal of Research in Social Sciences and Humanities

www.aijsh.com

Effect of Organizational Climate in Job Satisfaction among the Employees

M. Monika*; Dr. K. Kaliyamurthy**

*Research Scholar,
Department of Management Studies,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli, India.
**Associate Professor and Head,
Department of Economics & Research Advisor in Management,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli, India.

Abstract

The Organizational Climate is a set of attributes which is specific to a particular organization. Which are formed by the way that the organization deals with its employees and other people who are related to the organization and its environment. The individual members in the organization and the whole as an organizational, makes the climate which form a set of attitudes and experience, which describe the organization climate in terms of both static characteristics and behavior consequence and outcome-outcome possibilities. The study unit, was Harihar Alloys Pvt. Ltd., Tiruchirappalli, TamilNadu, India. They generates employment opportunities and income in the Tiruchirapalli region and it is one of the premier institutions in the region in terms of its uniqueness. In the organization researcher establish the related factors in organizational climate which cause the satisfaction to the employee in the working environment in that way it impact will on their job excellence and to determine if there are differences in the way senior employees and junior employees perceive the existing organizational climate. A study was conducted to analyze the factors affecting organizational climate and thereby job satisfaction. The researcher made use of descriptive statistics to obtain results. Results indicate significant positive relationship between organizational climate and job satisfaction among the employees in Harihar Alloys Pvt. Ltd that the climate of an organization and job satisfaction vary together. However, this study had provided variables like, lines of communication, training and development, welfare measures, etc., to affect the organization climate. Therefore, this paper attempts to establish the relationships that are

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Economics and Social Sciences (IJRESS)
Available online at: http://euroasiapub.org
Vol. 7 Issue 6, June- 2017, pp. 388~402
ISSN(o): 2249-7382 | Impact Factor: 6.939 | Thomson Reuters Researcher ID: L-5236-2015

AN OVERVIEW OF STUDIES RELATED TO EMPLOYEE MOTIVATION

Ramya, T.[1]

Research Scholar,
Department of Management studies,
Urumu Dhanalakshmi College, Kattur,
Tiruchirappalli- 620 019,

Kaliyamurthy, K.[2]

Associate Professor and Head,
Department of Economics & Research advisor in Management,
Urumu Dhanalakshmi College, Kattur, Tiruchirappalli- 620 019,

Abstract:-

Motivation is a device which directly influences the employees to work energetic and persistence. Motivation helps the organization to achieve the desired goals. Pinder (1998) says that work motivation is a part of initiate work and forces the related factors like behavior; determine the form, intensity of the employees. The purpose of this study is to present a literature of reviews related to employee motivation. The research is focusing on articles published later in the 21st century. It shows the current themes and empirical study of employee motivation. As many as 40 articles were taken into consideration. The researcher identified the factors like Self-Efficacy, Reward, Intrinsic, Extrinsic, Empowerment, Goal Setting are included in Employee Motivation. The literature supports the motivational factor of the organization to achieve the goal settings and their implications in the organizational setting.

Key Words: Self-Efficacy, Reward, Intrinsic, Extrinsic, Empowerment, Goal Setting.

Introduction:

Employee motivation can stimulate the employees and helps him/her towards work commitment and satisfaction. Motivation is a device which directly influences the employees to work energetic and persistence. Motivation helps the organization to achieve the desired goals. Pinder (1998) says that work motivation is a part of initiate work and forces the related factors like behavior; determine the form, intensity of the employees. Lawler defined employee's motivation as a "highly complex component to action on both organization and employees. This paper is contributed from the previous related articles it provide a different factors and tools to contribute the work.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of DEVELOPMENT RESEARCH

International Journal of Development Research
Vol. 06, Issue, 07, pp.8625-8633, July, 2016

Full Length Research Article

A DETAILED REVIEW OF ORGANIZATIONAL CLIMATE

[1,*]Monika, M. and [2]Kaliyamurthy, K.

[1]Research Scholar, Department of Management studies, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli-620019

[2]Associate Professor and Head, Department of Economics & Research advisor in Management, UrumuDhanalakshmi College, Kattur, Tiruchirappalli-620019

ARTICLE INFO

Article History:

Received 24th April, 2016
Received in revised form
26th May, 2016
Accepted 29th June, 2016
Published online 31st July, 2016

Key Words:

Organizational Climate,
Organizational Environment,
Work Environment.

ABSTRACT

Climate in the natural sense is referred to as the condition of the weather at a place over a period of years as exhibited by temperature, wind, velocity and precipitation but these features of the natural climate cannot be incorporated to define organizational climate. Organizational climate should be viewed from a total system perceptive. It is a general expression that conveys the impression people have of the environment in which. It is an abstract and intangible concept, difficult to explain. It explains how one organization differs from the other. It is of enduring quality experienced by the organization members. It is also multidimensional concept comprising individual autonomy, degree of conflicts, cooperation, pattern of communication, authority structure and leadership style and so on.

Copyright© 2016, Monika and Kaliyamurthy. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

The essential components that collectively represent the climate of an organization can be summed up or below: dominant orientation is an important determinant of climate of an organisation. The interpersonal relationships are reflected in the way informal groups are formed and operated. The organisational climate also depends upon how effectively conflicts are managed. Sufficient freedom to work and exercise authority will lighter the burden of higher executives. The control system of an organisation also plays an important role. Rigid control will result in minimum scope for self-regulation. Decentralisation of authority results in an atmosphere of participative decision making but centralisation of authority results in less participation. The management style also effect organisational climate task oriented approach means less employee morale. On the other hand, relation oriented approach will improve the team spirit in the organisation and the aspiration of the work will be given due importance. The rewards and punishments are also important fororganisational climate.

**Corresponding author: Monika, M.,*
Research Scholar, Department of Management studies, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli-620019.

If the reward system is nonstop related to performance and productivity there will be an atmosphere of competition among the employees. Proper communication system will also affect the organisational climate. The flow of information, its direction, it's dispersant are all important determinants. If the communication system is not proper the subordinate will feel frustrated. If individuals feel free to try out new ideas without fear. It will create an conducive atmosphere to innovative ideas. The above components are not mutually exclusive, but overlap author and indicate the underlying philosophy of the management.

Literature Reviews

In this research paper the reviews had taken from various foreign and Indian research authors. The Researchers have taken a keen interest in organizational climate of organization. However, it is essential to review all relevant material which has a bearing on the topic selected. Researchers have reviewed the literature of organizational climate in different fields and their findings are listed below. These reviews of related literature give an overview to the researcher in the conceptual analysis of the topic and for framing objectives and hypotheses and for identifying variables etc.,

3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH PAPER
Impact Factor : 3.919
H.R.M
Index Copernicus Ic Value: 74.50
Volume : 6 | Issue : 4 | Special Issue April-2016 | ISSN - 2249-555X
India's Labour Legislation and its Employment Relation for the Next Decade

HARDSHIP EXPERIENCED BY MIGRANT LABOURS IN WORK ENVIRONMENT

KEYWORDS: Migrant Labours, Work Environment

Monika.M
Research Scholar, Department of Management studies, UrumuDhanalakshmi College, Kattur, Tiruchirappalli-620019.

Kaliyamurthy.K
Professor in Economics and Research advisor in Management, UrumuDhanalakshmi College, Kattur, Tiruchirappalli-620019,

ABSTRACT *Migrant labour are a subset are a part of unorganized Labour. They move from place to place to make a living. As they move from place to place they are put to untold hardship. The study is taken to find out the hardship faced by them. We come to know about their difficulties and their effect on them. The study is conducted on 45 construction workers in Tiruchirappalli District of South India. It is Clear from this Study that they face difficulties on, change in food habit, language problem and accommodation etc.,*

INTRODUCTION

Unorganized labours may be defined as those who do not depend on any companies, self-employed, contractual or bonded labour, doing occupation by hereditary. Migrant Labours come under this organization. Migrant Labours are widely spired in all countries. They move places in search of a living. They may be employed on contractual basis are employed till the completion of a particular job. Such type of labours are put to various hardships in their workplace. This is due to a totally new environment from their hometown. We may see the difficulties they are forced to face to get adjusted to the new environment. 1. The first problem they face on migrating, is the language. The reason is due to the fact that, the language to which they are newly exposed is completely different from their mother tongue. 2. The second comes food habits. They again find difficult to adjust themselves to the new food habits. For this reason they may frequently fall sick. 3. They lose a lot of their family life due to the distance factor. A few may also face problems in giving their wards, education. As they are far away from their homes they are subjected to mental stress. The place of residence or camps are very small, unhygienic and badly maintained. Migrant Labours in Tiruchirappalli District in Tamil Nadu stay in a group of five or more in a small rented room. Those who stay in camps are put to untold hardship during peak summer and monsoon. This research is made on Migrant workers in general and construction worker in particular who have come here to Tamil Nadu in search of a living. A majority of them are from North India and they are working in Tiruchirappalli for a few years or so.

REVIEW OF LITERATURE

Dr.Vandana Dave, (2012), conducted a study to understand the socio economic conditions of women constructional workers who included agricultural labourers and domestic workers in unorganized sector. The result showed that a majority of them are engaged in construction industry and were exploited on hours of work and payment factor. It was their poverty, illiteracy and debts that had forced hem to do such work. Kusakabe, (2006), the informal sector workers face different problems based on the nature of work. In combodia street vending is illegal and even selling in trolleys is prohibited. Those who fail no obey or fined. Padhi, (2007), observed that the conditions of agricultural labourers India and made suggestion for the improvement in the following areas, as wage bargaining position, working hours, working conditions, implementations of legislative measures, providing credit at cheaper rates of interest, repayment terms, and training for improvement their skills. Santosh Nandal, (2006), this study was conducted on construction women workers in Haryana. Many workers migrate across the states of India to seek employment. The construction industry entirely depends on migrant workers, a majority of who are women. They lead a very tough life and end up with playing the roles of rearing their children. Bhowmik, (2005), studied that, a vast majority of self-employed were street vendors who often goods for sale without any permanent structure or maybe stationary occupying space on the pavements are other public places. Balackett, (2000), another majority constituted of domestic workers involved in house cleaning, washing clothes, ironing, cooking, dishwashing and garden keeping. Thippaiah (1999), examined the problem of urban informal sector in Bangalore metropolitan area. The self-employed were engaged in paper making, embroidery, agarbatti making, waste paper collection and mostly they were unskilled and casual workers. The women were paid low wages below the subsistence level without any proper medical facilities and safety measures. Divya Pandey, (1998), examined the nature and types of migrant workers from Maharashtra. The findings of this survey was very alarming. These unorganized sector workers were working without any legal protection, long working hours, low wages, unsafe conditions and exploitation. She suggested an increasing in participation of NGO's and government support through programmes and policies to reduce the negative consequences of migration and other social problems.

METHODOLOGY

The research design adopted for the present study is descriptive research design. The methodology used for the present study is interview methods. Interview method is a list of questions relating to the proposed study is prepared and the answers for these questions are obtained from the respondents. Questions are put to the respondents directly. A face to face meeting with the respondents is adopted. A structured questionnaire was developed field tested and utilized to collect the primary data from 45 respondents in the study area. The collected data was compiled, processed and analyzed.

Research Design:

Descriptive Design has been adopted for conducting the study.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume : 4 | Issue : 10 | October 2015 ISSN - 2250-1991

Research Paper Economics

Impact of Globalization on Rural Development in India – Some Issues and Concerns

Dr. K. KALIYAMURTHY

Associate Professor & Research Advisor PG & Research Department of Economics Urumu Dhanalakshmi College (Re-Accredited by NAAC with 'A' Grade) Tiruchirappalli- 620 019.

ABSTRACT

The term globalization has been associated with key areas of change, which have led to a marked transformation of the world order. Globalization in India is generally taken to mean integrating the economy of the country with the world. This, in turn, implies opening up the economy to foreign direct investment by providing facilities to foreign companies to invest in different fields of economic activity in India. The main policy initiated towards globalization by the Government of India can be discussed under many headings. Globalization can be a major force for prosperity only if it is backed by adequate national policies and conducive social and economic environment. The present paper is totally based on secondary data. This paper will give an overview of what the forces of globalization have in store for the women of India. The various impacts of globalization on the society as well on women in India were also highlighted in the paper. The data thus collected shows the status of globalization in India, the significant role played by the new economic policy in promoting the Indian Economy, Does globalization cause poverty, Why are so many people opposed to globalization and Can globalization be controlled. A large group of working women of India is in the rural and unorganized sectors. Socially the majority of Indian women is still tradition bound and is in a disadvantageous position. Since globalization is opening up the Indian economy suddenly at a very high speed, without the required economic and social policies to provide the much required safety net, women who have been involved with production in the traditional ways, have to cope with numerous problems and yet try to avail of the opportunities which an open economy promises. With this background, this paper mainly focuses on the Anthropological vision and critical reality on the impact of globalization on Indian rural women from various angles.

KEYWORDS Globalization Impact – Rural Development – Recent Development.

Introduction

Globalization is the new buzz word that has come to dominate the world since the nineties of the last century. Globalization can be simply defined as "The Expansion of Economic activities across political boundaries of native states". Globalization refers to increases the movement of finance, inputs, outputs, information and science across vast geographic areas. Globalization aims at the integration of the Domestic Economy with the Global Economy and the optimum utilization of growth potential. The process of globalization has revolutionized World Agriculture and allied sectors of are directed to improve the efficiency productivity and cost competitiveness. Globalization has brought in new opportunities to developing countries. Greater access to developed country markets and technology transfer hold out promise improved productivity and higher living standard. The negative aspect of globalization is that a great majority of developing countries remain removed from the process. Till the nineties the process of globalization of the Indian Economy was constrained by the barriers of trade and investment liberalization of trade, investment and financial flows initiated in the nineties has progressively lowered the barriers to competition and hastened the peace of globalization.

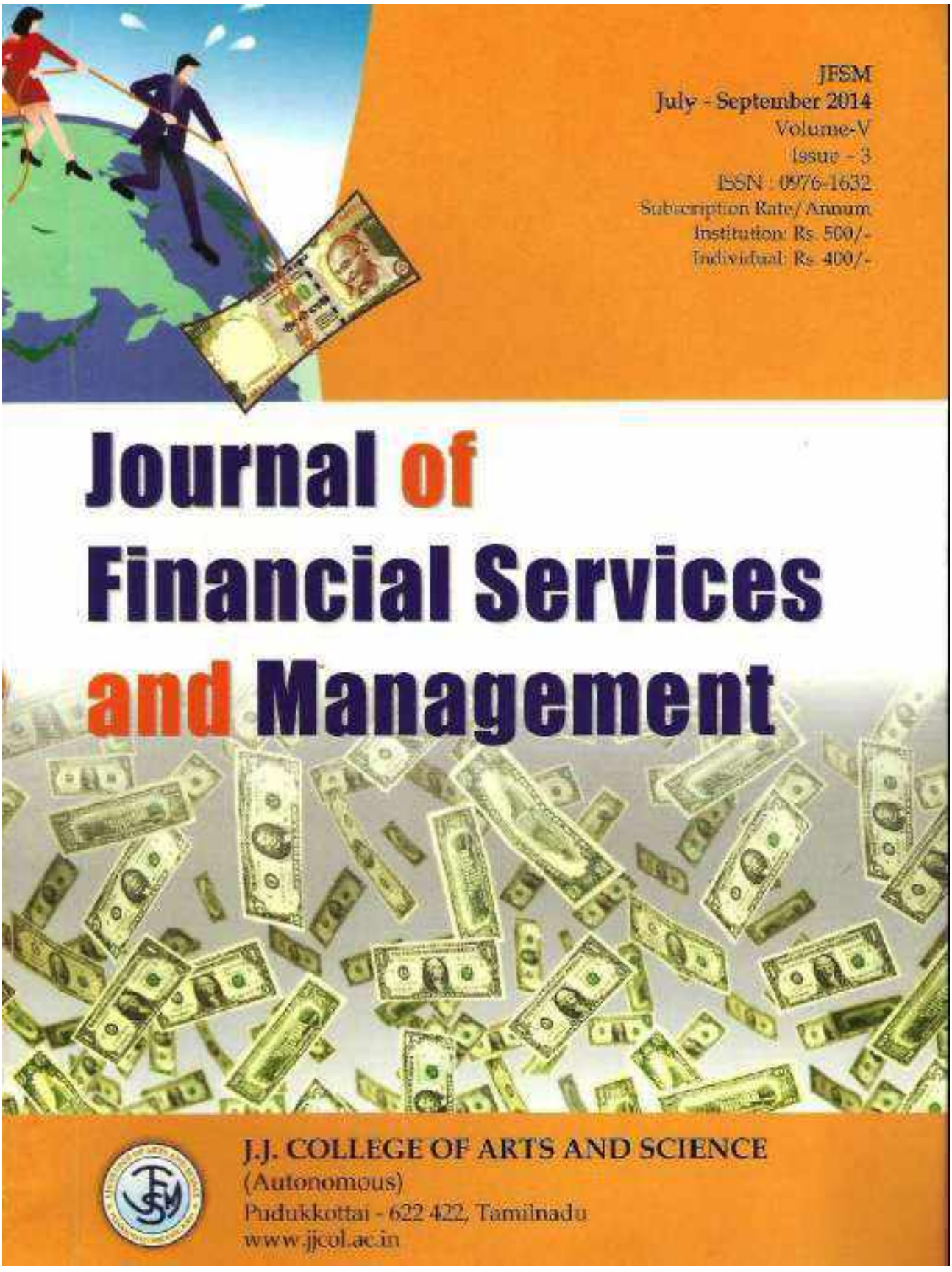
India is widely considered as one of the hot spots for the wider spread poverty and malnutrition, which shelters about one-fourths of the world's poor, although it accounts for only 17 per cent of the Global population and with only 2.4 per cent of world Geographical area. One of the widely recognized strategies recently in developing countries including in India to achieve the millennium development goal of reducing absolute poverty by half in the year 2015 is to improve rural household income by initiating necessary reforms and structural adjustments in rural sector especially in agriculture sector. The 1990's have witnessed a significant shift in the Macroeconomic Policy Environment around the globe including in India. India also acceded to the World Trade Organization agreement in order to integrate its economy with the global trade.

Under the World Trade Organization agreement major instruments of the reforms initiated in farm sector the 1990's. (a) Gradual withdrawal of the state intervention in Agricultural markets, particularly grain trading (b) reduction in tariff rate on imports of food items and reduction in price controls (c) gradual elimination of the quantitative restrictions on exports (d) encouraging the private sector participation both in output, and input trading. (e) Liberalization of food and agriculture products has allowed the dumping of highly subsidized agricultural products from North to South. These reforms are primarily aimed at (a) Improving the competitiveness of agriculture to exploit new export opportunities in the global market. (b) to encourage agricultural diversification towards high value crops thereby increasing farm income and the availability of more food grains thus augmenting food security addressing malnutrition (c) to accelerate growth in Agriculture. To ultimately eradicating poverty in the country.

Role of globalization farmers

The importance of globalization farmers in agriculture has been increasing. The share of rural females in agriculture was around 83 per cent in 2004-05 as compared to 67% among rural men, showing the importance of globalization farmers in agriculture in rural areas. Percentage of globalization farmers among marginal farmers (38.7%) is higher than that for large farmers (34.5%) in 2014-15. These proportions have increased over time. Agriculture is becoming increasingly feminized as men are migrating to rural non-farm sector. They work in "land preparation, seed selection and seed production, sowing, in applying manure, fertilizer and pesticides, weeding, transplanting, threshing, winnowing and harvesting etc as well as in animal husbandry and dairying, fish processing, collection of non timber forest produces (NTFPs), back yard poultry, and collection of fuel wood, fodder and other products for family needs" (GOI, 2014). Despite their importance, globalization farmers are continually denied their property rights and access to other productive resources. Protecting globalization farmers' rights in land, enhancing infrastructure support to globalization farmers, and giving legal support on

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Financial Services & Management
July - September 2014, pp. 23-28

Trends and Challenges in Information Technology (IT) Management

*Kaliyamurthy. K
Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu
Corresponding author: lakshmi.kaliya@gmail.com

Abstract

The IT sector is the most dynamic of agents of change in growing economies. It is a highly sensitive sector that impinges on almost all other sectors of the economy. With the winds of change unleashed by liberalization, privatization and globalization and the increasing application of business process outsourcing, the sector has become the hot bed of innovative strategies and research. As a result, funding, staffing and marketing have emerged as key problem areas. Governments are in a quandary about formulating policies for the IT sectors harmonizing the twin principles of protectionism and free market-strategies. It is in this context that the present paper seeks to highlight the trends and challenges in Information Technology management.

Key Words: Information Technology, BPO, LPG, Protectionism, Free Market s Strategies.

Introduction

After the Agricultural and Industrial Revolution, the so called third revolution, i.e. IT Revolution is inevitable. It has made profound changes in the life style of people all over the world. Fifty years ago, the Republic of Ghana and Korea were having the same income per capita. But within forty years Korea's income has risen by six times compared to that of Ghana. Part of this success is due to the way Korea acquires, utilizes and disseminates information. (WDR, 1998). In our country, during the 50's, the contribution of the service sector was just 20 percent while by the turn of the 21st century, its contribution stood at 60 per cent. Information technology simply means the application of computers and telecommunication-equipment to store, retrieve, transmit and manipulate data for people needing them in an economical and effective way. The field of IT continues to make an impact on everyday business processes. But the field is beset with challenges. Of these, information-management-related challenges acquire significance because the world economies today are classified into two-information-rich-economy and information-poor economies.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific Research and Review ISSN: 2279-543X

CONTRIBUTION OF E-HUB FOR TASKS ON E-COMMERCIAL ENTERPRISE FOR ENHANCED CUSTOMER RELATIONS

S. Sanath Kumar[1] Dr. K. Kaliyamurthy[2]

Abstract

Within the cutting-edge and beyond, e-Hubs had been a hit, also within the kind of public market or as personal change rules within endeavors. E-Hubs be utilized in a well-sized form of enterprise sectors they're transport and Trucking, Warehousing, Perishable goods, chemicals, tour, leisure, real property, coverage offerings, production, financial services, and Media. E-Hubs have obviously installed their strength as a synchronized, global allotment marketplace through dissolving the regulations of time and characteristics and made it viable for consumers, B2B and B2C to emerge as more completely affianced. E-Hubs create cost with the aid of aggregating buyers and dealers, creating marketplace liquidity, and lowering transaction fees and time. E-Hubs are converting traditional enterprise transactions and the relationships among organizations with the aid of integrating the supply and demand of an organization with its customers, suppliers, and companions, and automating commercial enterprise transactions and records sharing. They invent remarkable tiers of market transparency and decrease the fee of transactions. This study describes the capabilities of e-business with the affiliation of e-hub with various technologies, services, and issues, demanding situations.

Keywords: *E-Hub, E-commercial enterprise, services and issues, and capability challenges on E-Hub*

Introduction

Industry users are able to liquidate their service merchandise, set up trade networks, and build collaborations via e-Hubs. Agencies use e-Hubs to synchronize operations with their call for and supply chains to alternate product lifecycle via bringing a huge wide variety of suppliers and customers collectively and facilitating transaction and collaboration between those gamers, e-Hubs are able to:

- Configure a multi-channel sell-facet solution. It permits an organization to market and sell greater inventories to existing clients and to establish new consumer relationships with the aid of connecting to e-marketplaces and portals. E-Hubs permit corporations to manipulate and control all of its sales channels from a single interface.
- Reduce prices notably because of the improved settlement pricing leverages throughout supplier negotiations, transactions, and product development consisting of lowering paperwork, traveling expenses, and inventory fees, allowing multiple sales and integrating and consolidating fee.
- Growth marketplace transparency as clients and providers can tune and display the entire transaction method, profile their purchases and customers and management of contracts and authorizations.
- Facilitate the supply chains among companies to hurry time-to market place via collaboration with providers and clients. Steps required for layout, execution, prototyping, and changes grow to be workflows in which facts is shared seamlessly with partners to create the proper design in a shorter duration with a quicker ramp to excessive-volume production. Coordinate logistics and capital control with the enterprise and manufacturing process.

1.1 E-HUB functions and services

E-Hubs had been constantly being studied over the past two a long time. The understandings to e-Hubs have additionally been converting with the speedy accelerated e-Hub contents, architectures, capabilities and offerings, improvement techniques, and application environments. The result is that the definition of e-Hubs range substantially because of exceptional offerings e-Hubs provides and people's views of e-Hubs. Therefore, underneath the same umbrella, e-Hubs may be pretty various things to specific researchers, from an easy B2C (enterprise-to-patron) e-marketplace to a comprehensive digital organization facilitator.

[1]. Research scholar (Part Time) in Management studies, Urumu Dhanalakshmi College, Tiruchirappalli.
[2]. Associate Professor & Head, PG and Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN: 2279-0543
SJIF Impact Factor – 6.946
ISI Impact Factor – 1.536
UGC Journal No. - 63179

Contact: +91-9413913741, 7976948857
E mail: editorijsrr@gmail.com
Website: www.ijsrr.org

International Journal of Scientific Research and Reviews

Published By CSIR Foundation

Article Acceptance Certificate

Date: 15/04/2019

Dear Sir/Madam,

I am delighted to inform you that your article IJSRR/82/82655 entitled**"A study on online buyer behavior towards ticket booking in tiruchirappalli city"**authored by **S. Sanath Kumar and Dr. K. Kaliyamurthy** will be publish in the Vol. 8 Issue 2, **April – June,** Issue 2019. Your paper will be online available in July.

Yours truly

Dr. Sunil Kumar Sharma
Chief Editors
International Journal of Scientific Research and Reviews
Published by CSIR Foundation

ISSN No: 2250-1991
IMPACT FACTOR: 3.4163

Certificate of Publication

This is to certify that

Prof./Dr. **K. KALIYAMURTHY**

has contributed a paper as author/ Co-author to

PARIPEX- INDIAN JOURNAL OF RESEARCH

Title " **IMPACT OF GLOBALIZATION ON RURAL DEVELOPMENT IN INDIA – SOME ISSUES AND CONCERNS** *"*

and has got published in volume **04**, *Issue* **10** **October - 2015**

The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

Executive Editor | *Editor in Chief* | *Member, Editorial Board*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN (Online): 2321-7782
ISSN (Print): 2347-1778
IMPACT FACTOR: 6.047

e-ISJN: A4372-3114 p-ISJN: A4372-3115

International Journal of Advance Research in Computer Science and Management Studies

Sr. No. Aug17/12/2

CERTIFICATE

Date : 31/08/2017

Dr/Prof/Mr/Ms Kaliyamurthy. K

This is to certify that the Research Article/Paper/Case Study titled

The Impact of Intrinsic and Extrinsic Rewards on Employee's Performance

Submitted by you published in

August 2017, Volume.No. 05, Issue No. 8 in this Journal

For further Information Please Visit www.ijarcsms.com

All Rights Reserved

Publisher
IJARCSMS

This Certificate is deemed authentic when it bears the Signatures and the Journal's Seal

PRINTED ISSN: 2249-1260
ONLINE ISSN : 2250-1819

J M S

The Board of

Journal of Management and Science

Is hereby awarding this certificate to

DR. K. KALIYAMURTHY, ASSOCIATE PROFESSOR & HEAD

URMU DHANALAKSHMI COLLEGE, TRICHY.

In recognition of the publication of the paper entitled

AGRICULTURAL MARKETING ASPECTS OF ORGANIC PRODUCTS

Published in JMS, Special Issue. 3, Feb'2018.

Dr. R. KHADER MOHIDEEN
Convener
Director
Jamal Institute of Management
Jamal Mohamed College
Tiruchirappalli

Dr. S.A.LOURTHURAJ
Coordinator
Associate Professor & MID
Jamal Institute of Management
Jamal Mohamed College
Tiruchirappalli

Mr.S. DAWOOD ALI
Organizing secretary
Assistant Professor
Jamal Institute of Management
Jamal Mohamed College
Tiruchirappalli

Dr. Thiyagu Nagaraj
Publishing Editor
Journal of Management and Sceince

Indus Foundation for Education,
Research & Social Welfare
(A registered society with global linkages)

Paper Id: 32018/180349

Dated: March 28, 2018

Certificate of Publication

This is to certify that the research paper entitled "Analysis on Organizational Climate and Occupational Stress in GK Sons Engineering Enterprises Pvt. Ltd." authored by "Kaliyamurthy, K., Associate Professor and Head, Department of Economics & Research advisor in Management, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India" has been reviewed by the board and published in "International Journal of Research in Management, Economics and Commerce (IJRMEC), UGC approved Journal No. 48542; ISSN 2250-057X (Online), Volume-8, Issue-3, March 2018, page 156-161; Impact Factor (SJIF) – 2016: 6.384.

Managing Editor (IFER&SW)

ISSN [ONLINE] : 2395-1052

THE BOARD OF

INTERNATIONAL JOURNAL FOR SCIENCE AND ADVANCE RESEARCH IN TECHNOLOGY

is here by awarding this certificate to

KALIYAMURTHY K

In recognition of publication of the paper entitled

EMPLOYEE MOTIVATION IN THE WORKPLACE AND THE EMPLOYEES' PERFORMANCE

Published in E-Journal

Volume 4, Issue 3 in March 2018

EDITOR IN CHIEF

PAPER ID : IJSARTV4I321532

Email id : editor@ijsart.com | website : www.ijsart.com

IJSRR International Journal of Scientific Research and Review
An ISO : 7021 - 2008 Certified Journal
ISSN NO: 2279-543X / web : www.dynamicpublisher.org / e-mail : submitijsrr@gmail.com
Address : B/11 - 157, Katraj-Dehu Road, Pune, India.

CERTIFICATE OF PUBLICATION

This is to certify that the paper entitled

Certificate ID : IJSRR/D951

"EFFECTIVENESS OF TRAINING PROGRAMME OF SMALL SCALE AND MEDIUM SCALE ENTERPRISES IN PUDUKKOTTAI DISTRICT"

Authored by

Dr. M. KaliyaMoorthy

From

Urumu Dhanalakshmi College Trichy.

Has been published in

IJSRR JOURNAL, VOLUME 7, ISSUE 10, OCTOBER - 2018

DOI : 16.10089/IJSRR

Dr. K. Vikram Kumar Sinha, Ph.D.,
Editor-In-Chief
IJSRR JOURNAL
www.dynamicpublisher.org

6.1 IMPACT FACTOR

ISO 7021-2008 International Organization for Standardization

A JOURNAL OF COMPOSITION THEORY

ISSN NO: 0731-6755 / Impact Factor - 5.7
web : www.jctjournal.com, e-mail : jctjournal@gmail.com

Certificate of Publication

This is to certify that the paper entitled

"THE BUYING BEHAVIOUR OF FARMERS TOWARDS MICRONUTRIENTS IN THE DIGITAL AGE: A REVIEW"

Authored by

Dr. K. KALIYAMURTHY, Associate Professor & Head

from

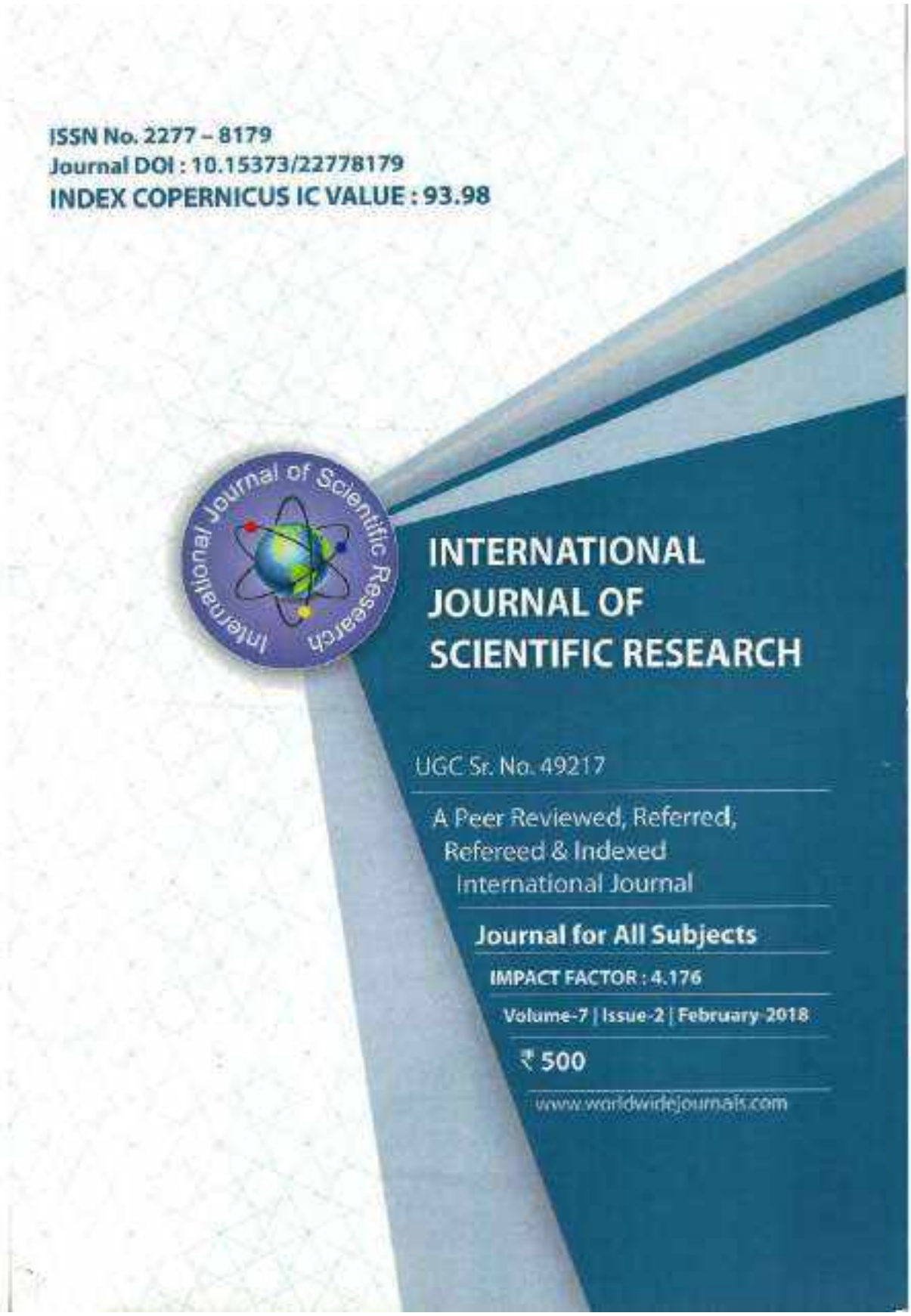
Urumu Dhanalakshmi College (Affiliated to Bharathidasan University), Tiruchirappalli, Tamil Nadu, India

Has been published in

JCT JOURNAL IN VOLUME XII ISSUE IX SEPTEMBER 2019

SEBASTIAN ZEKI
EDITOR IN CHIEF
JCT JOURNAL

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

ORIGINAL RESEARCH PAPER

Volume-7 | Issue-2 | February-2018 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 95.98

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PROCESS AND PATTERN OF MGNREGP POVERTY ALLEVIATION PROGRAMMES AMONG THE RURAL POOR IN TIRUCHIRAPPALLI DISTRICT - TAMILNADU

Social Science

Mrs. S. Jayanthi — M.A.,B.Ed., M.Phil., Full time Research Scholar, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu.

Dr. P. Soundararajan — M.A., M.Phil., B.Ed., Phd., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu.

KEYWORDS

INTRODUCTION

The development programme should identify the problems and options to solve these problems, based on the available resources and technologies. The agricultural development programme should identify the availability of resources such as quality of the land, quantity of water, weather conditions and select suitable crops which are most productive. The project should ensure timely supply of inputs, finance and identify a suitable market where price recovery for the produce will be maximum. This has been the key to success of many voluntary agencies engaged in rural development.

There is plenty of scope for introducing various employment generation activities in rural areas. The activities can be divided into agro-based and non-agro based activities. It is easier to generate employment in agro based areas as most of the farmers have access to various resources and skills. However, land based programmes have a serious limitation of carrying capacity. Keeping this in view, employment potential of non-agro-based areas should be tapped, preferably after initiating the agro-based activities.

Agro-based Activities include crop production, using high yielding varieties and improvement in land productivity through soil erosion control, watershed management, run-off water harvest, saline soil reclamation, introduction of new product or technique and improved implements, post-production and processing of the produce and marketing. In addition to the arable crops, introduction of fruit crops, cash crops, sericulture, apiculture can also be introduced, which have tremendous employment potential, ability to withstand natural calamities and high profitability. On marginal and wastelands, where crop production is uneconomical, afforestation can be viable alternative. **Afforestation** can generate cash income by providing commodity outputs like fodder, fuel, timber, gum, rubber, wax, lac and raw material for paper, pulp and ayurvedic medicines. In addition, forestry can help in improving the crop production through soil and moisture conservation and improve the environment and ecosystem.

Non-agro based Employment Opportunities are very limited in rural areas. However, certain small scale units can be set by the Self Help Groups or by the community through cooperatives. Some of them worth listing are agricultural implement and handtool production units, agro-service centres, food processing and packing, tailoring and garment making, handloom units, fibre extraction and rope making, handicrafts, carpentry, etc. In the absence of salaried jobs in the industries, villagers will have to depend more on self-employment and the success of people's participation in such a programme, depends on the nature of the activities present.

The criteria for the selection of suitable development and programmes dependent on the following factors:

1. Social acceptability of the participants;
2. Availability of natural resources and external inputs;
3. Skills to operate the programme without depending too much on external technology;
4. Ability of the participants to operate at low risk;
5. Easy marketability of the produce;
6. Economic viability and higher profitability;
7. Short gestation period;
8. Year-round employment.

It is also necessary to develop the capacity of the target group through establishment of local organisations. Such organisations can organise procurement and distribution of necessary inputs and marketing of the produce, even after the project is terminated and the services of outside resource persons are withdrawn. Availability of labour and their level of education to adopt necessary skills is also an important consideration. However in most of the villages, idle labour is available in plenty and skills required for implementing agro-based projects are less sophisticated. Hence the labour availability is not a critical factor but motivating them to take active part in the programme is the key to success.

To sort out the above problems, we need to develop a strong infrastructure at various levels. Apart from mobilising people, infrastructure is also necessary to organise input supply, finance, post-production processing and marketing of the produce. Inadequate marketing network is another major bottleneck in agriculture. The farmers should be oriented to make a swift forecast of the demand for various commodities and exploit the opportunities. There is great scope for setting up market outlets to reach the customers without involving too many middlemen. Such agencies can support farmers with seeds of improved varieties, finance and other critical inputs for optimising their crop yields.

People's Initiatives for Progress

Farmers in several states have established cooperatives for processing sugarcane, oil-seeds, milk, fruits and vegetables. With professional management and application of modern technologies, these organisations have brought economic stability and eliminated exploitation by intermediary traders. Encouragement is being given to strengthen such organisations throughout the country.

Under a nationwide programme for water resource development, involvement of NGOs as facilitators and formation of water users organisations have been encouraged to prepare the micro-level plans and implement the project directly. This programme has made a significant impact on the supply of drinking water and general awareness is being created on the need to conserve water and energy resources. There is scope for promoting such people's organisations in other fields as well to develop necessary infrastructure required to enhance economic prosperity. Considering the need for promoting people's initiatives and local organisations, Self Help Groups comprising of poor families have been promoted under the Ninth Five Year Plan (1997-2002), through the Swarnajayanti Gram Swarozgar Yojana (SGSY) in 1999. SHGs consisting of 10-20 members belonging to backward socio-economic status encourage the participants to meet regularly to collect their savings and disburse the loan to needy members. During this process, they also discuss their problems and find suitable solutions. Finally, it is the people's initiative which can sustain the development. The government has the will to support people's movement and this is the only way of hope for sustainable development of the rural poor in India.

RURAL SCENARIO IN INDIA

Out of a billion population, over 65% people are presently living in villages and about 35-40% families, who earn less than US$ 275 per annum are classified as poor. Presently, about 25% of the villages do not have assured source of drinking water for about 4-5 months during the year and about 20-75% of the water does not meet the standa

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Research Paper

Economics

ECONOMIC IMPACT OF JANA UTHAN POVERTY ALLEVIATION PROGRAMME IN INDIA

Mrs. S. Jayanthi — M.A.,B.Ed., M.Phil., Full time Research Scholar, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli – 620019. Tamil Nadu.

Dr. P. Soundararajan — M.A., M.Phil., B.Ed., Phd., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli – 620019. Tamil Nadu.

KEYWORDS :Jana Uthan ; Our New Approach ; Rural Development

INTRODUCTION

Over the long field experience, BAIF has realised that the development organizations approach the rural communities with specific activities, which benefit only a few sections of the community, while the others are left out, due to lack of resources or skills. In this process, it is often the poor who are left out of these development programmes. Therefore to overcome this situation, the new approach – known as 'Jana Uthan Approach' has been developed. Under this approach, the Extension Workers interact with the local community with an open mind and to bring them together to identify the local problems. The community is then encouraged to interact closely and identify the members into 3-4 economic categories based on their income and the access to various resources. Then the local groups identify the resources and the opportunities for the individual families belonging to different categories with objectives of bringing all the sections above poverty. In this process while the marginally poor get smaller support through 1 or 2 development intervention, to come out of poverty, the poorest families having limited resources are given opportunity to participate in multiple activities. Thus the poor have scope to earn their income from several sources and the chances of failure are low. This approach is helpful to maintain transparency of the programme and promotes harmony among the members of different economic categories.

The Jana Uthan Approach also poses a challenge to the development agencies to find suitable solutions to the problems of the landless and resource poor families. This calls for the search of suitable off-farm production and service activities to be undertaken by the poor, particularly the landless. Some of the important off-farm activities are pottery, smithy, carpentry, textile and services such as automobile hire and repairs, electrical wiring and repairs, masonry, production of pre-casted materials, civil construction, consumer stores, etc. While the off-farm activities have serious limitation due to poor infrastructure for input supply and marketing, the success of most of the on-farm activities are dependent on the productivity and management of the natural resources.

Presently, all the important natural resources like land, water, forest vegetation and livestock, which are critical inputs for providing gainful self-employment and generation of GNP are under-utilised. These resources which are the basic assets for providing sustainable livelihood are proving to be liabilities. Therefore, the strategy for sustainable development is to improve the productivity of the natural resources and develop the capabilities of the local communities to make optimum use of these resources for their livelihood. Efficient management of the natural resources can generate secondary resources, which in turn can provide additional employment opportunities. With this background, BAIF has developed a multi-disciplinary programme for sustainable management of natural resources which include livestock development, watershed development, agroforestry and promotion of post-production and non-farm activities. These activities have good potential to provide employment opportunities even to the landless, small landholders and women, while conserving environment and biodiversity.

Programme Impact

Dairy Development: BAIF initiated livestock development programme through the upgradation of local cattle and buffaloes for milk production as most of the rural families including the landless maintain livestock most of the rural families benefited from this programme. Indeed the poor are more dependent on the livestock than the rich as they do not have adequate land and water resources to engage in agricultural development activities.

Realising the drawback of the local cattle with respect to productive and reproductive inefficiencies, BAIF has taken up the crossbreeding of such low productive, non-descript cattle. The programme also covers the buffalo improvement by breeding non-descript with improved breeds. Under this programme a cluster of 10-15 villages will be headed by a trained technician who will provide breeding services to cows and buffaloes at the door steps of the farmers, using frozen semen of superior sires. Motivation, awareness about the benefits, delivery of various services, regular follow up, technical guidance, timely health care, supply of critical inputs have been helpful to the farmers to take full advantage of this programme.

Impact on Livestock Production

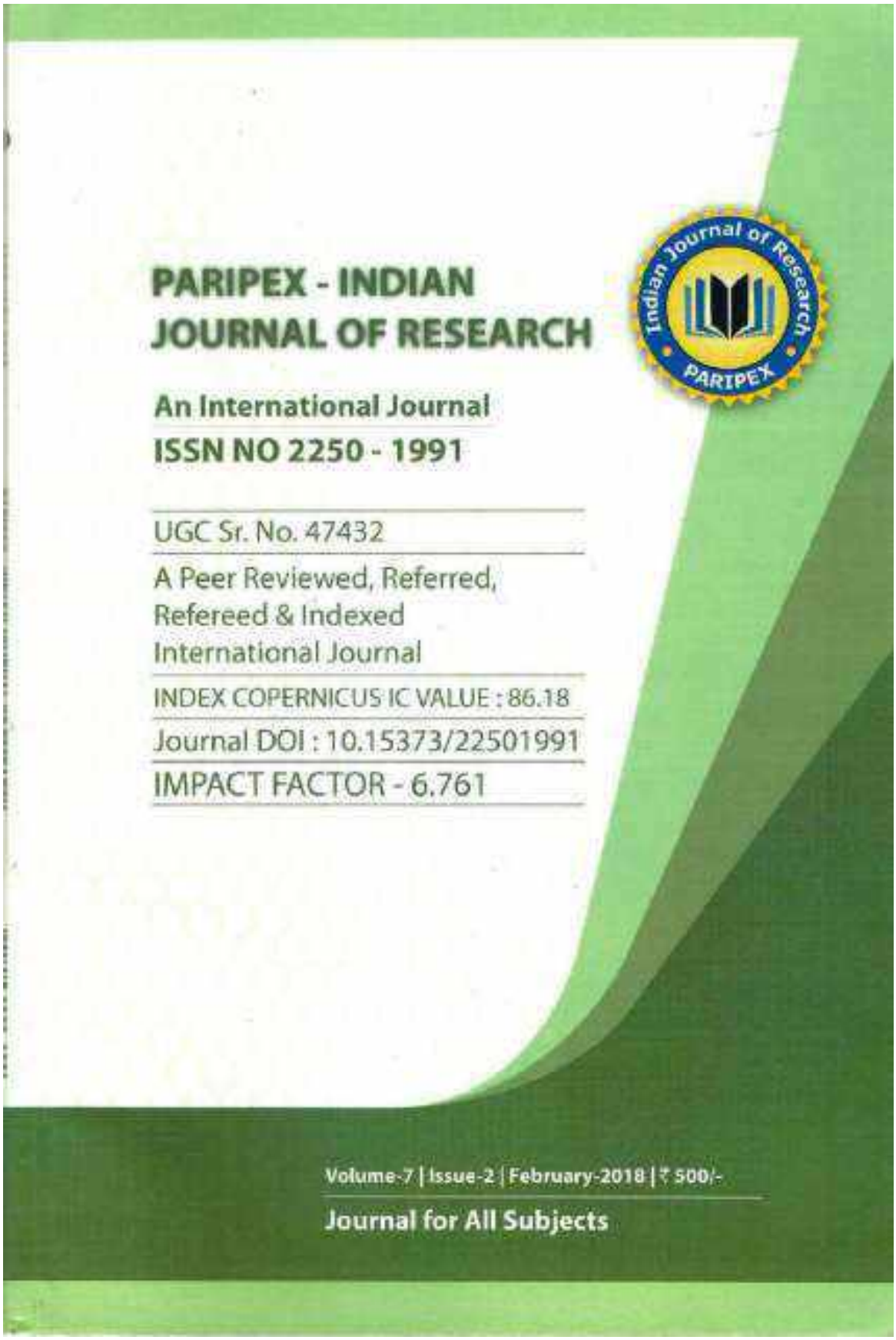
Crossbred calves born at the door steps of the rural families come to milk production at the age of 28-32 months and yield about 2500-2700 kg milk per lactation (300 days). This programme encourages the farmers to stall feed their valuable animals and reduce the herd size by selling un-productive animals. A crossbred cow is able to contribute a net income of Rs.5000 per year apart from other benefits such as supply of milk for home consumption, particularly for children, dung for biogas and manure and efficient use of various agricultural by-products as feed. The programme provides an excellent opportunity for the empowerment of women and improve the eco-system by reversing the unhealthy trends of stray grazing, inbreeding and spread of diseases. A family with three crossbred cows is able to remain out of poverty and lead a sustainable livelihood.

Presently, BAIF's programme is spread over 40000 villages through 1400 cattle development centres in 12 states. Atleast 2 lakh female crossbred cattle and buffalo calves are born every year and the value of the milk produced from this programme is over Rs. 1650 crores per annum. Presently at least 5 lakh families have taken advantage of this programme to come out of poverty. This programme has the potential to expand throughout the country, as milk is a staple food for the growing population in the country.

Development of Community Pastures

In drought prone regions of Rajasthan, where rainfall is erratic, farmers are more dependent on livestock than on agriculture for their survival. In such areas the community pastures have been heavily degraded due to uncontrolled grazing. With the degradation of community lands, the other problems such as soil erosion, deforestation and depletion of ground water have been accelerated further affecting the natural resources. Therefore BAIF decided to take up community pasture development on a pilot basis in Bhilwara district of Rajasthan. Initially the work was

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-7 | Issue-2 | February-2018 | ISSN - 2250-1991 | IF : 6.761 | IC Value : 86.18

ORIGINAL RESEARCH PAPER

Economics

AN ANALYTICAL STUDY OF THE POVERTY ALLEVIATION THROUGH MGNREGP PROGRAMME AMONG THE RURAL POOR IN TIRUCHIRAPPALLI DISTRICT

KEY WORDS: Poverty – Alleviation – Inequalities of income distribution – Inter-personal comparisons.

Mrs. S. Jayanthi M.A.,B.Ed., M.Phil., Full time Research Scholar, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu.

Dr.P. Soundararajan M.A., M.Phil., B.Ed., Phd., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu.

INTRODUCTION

Rural development has been receiving increasing attention of the governments across the world. In the Indian context rural development assumes special significance for two important reasons. First about two thirds of the population still lives in villages and there cannot be any progress so long as rural areas remain backward. Second, the backwardness of the rural sector would be a major impediment to the overall progress of the economy.

India is predominately an agricultural country and farming is their main occupation. In terms of methods of production, social organization and political mobilization, rural sector is extremely backward and weak. Moreover, technical developments in field of agriculture have increased the gap between the rich and poor, as the better off farmers adopted modern farm technology to a greater extent than the smaller ones. The all India Rural Credit Review Committee in its report warned "If the fruits of development continue to be denied to the large sections of rural community, while prosperity accrues to some, the tensions social and economic may not only upset the process of orderly and peaceful change in the rural economy but even frustrate the national efforts to set up agricultural production." It was therefore felt necessary to make arrangements for the distribution of fruits of development to the rural weak and backward section of society.

The term is used to mean 'organizing things' so as to change existing conditions in favour of a better state. There may be many variants of development drawing their nomenclature from the sphere of activity where the change is managed or the type of change or the 'method' how the desired change is attained. For several decades the term was used, solely, for economic change, inclusive of the conditions which affect betterment. The concept was later extended to its wider meaning to embrace 'changes' of political, social, cultural, technological, economic and also the psychological frame of society. In its current meaning 'development' is used to express animated change for reaping utmost human potential. Technically, development is the name of a 'Policy' and its "Consequent programmes', designed to bring about a desired change in social, economic, political, or technological spheres of life. It is concerned with the promotion of human capacities (Physical or mental), to attain the cherished social goals. Development is potential-related, and it can be attained to the extent of the existing development potential, which is measured by the un-exploited resources, talents, margin of sophistication and the 'will power' which implements development policy. Development is the conditioning of progress and when efforts are laid towards the use of Growth potentials in rural economy and Society, it is rural development.

Problems of the Poor

Poverty in India is judged by the income generated by the family. A family of 4-5 members need at least Rs. 11,000 (USD 275) per annum, to meet their minimum basic needs. Those who cannot earn this income are classified as poor. Unemployment and underemployment are the major causes of rural poverty. The other factors are small land holdings, harsh agro-climatic conditions, poor infrastructure and limited opportunities for rural industrial development, poor health care, illiteracy, social suppression, addiction to alcohol and exploitation by vested interests.

Land is the major resource in India, which provides livelihood to the rural population. According to a survey conducted in 1991-92, about 11.25% of the rural families are landless and among the land holders, over 69.35% own less than 1 ha (marginal farmers) and 21.25% own between 1 and 2 ha (small farmers). Water is another critical resource required to enhance the agricultural production. Out of the total arable area of 169 million ha, only 28% area is under irrigation and the rest is dependent on rains, where hardly one crop can be grown in a year. About 68% of the cropping area is located in low rainfall regions where the employment opportunity is hardly for 40 to 50 days in a year and crops generally fail twice in five years. Decline in many traditional occupations and poor institutional infrastructures have further reduced job opportunities. Thus, about 90% of the rural population, who are deprived of adequate land holding have to look for other means of livelihood for their survival.

Rural Scenario in India

Out of a billion population, over 65% people are presently living in villages and about 35-40% families, who earn less than US$ 275 per annum are classified as poor. Presently, about 25% of the villages do not have assured source of drinking water for about 4-5 months during the year and about 70-75% of the water does not meet the standard prescribed by WHO. Poor quality drinking water is adversely affecting the health and diarrhea is an important cause of infant mortality.

Traditional Indian communities being male dominated, women have been suppressed till recently. While the average literacy rate in rural areas is around 50-65%, it is as low as 20-25% among women in backward areas. Education of girls was felt to be unnecessary in the past and this has seriously affected their quality of life. Illiteracy has also suppressed their development due to lack of communication with the outside world. They are slow in adopting new practices, which are essential with the changing times. Apart from lack of communication, social taboo has also hindered their progress.

Several vested interests, both local and outsiders have exploited this situation. The rich landlords did not want any infrastructure development, which would benefit the poor, because of the fear that they would not get cheap labour to work on their farms. The local moneylenders did not want alternate financial institutions to provide cheaper credit needed by the poor. The traditional healers conversed against modern medicine under the garb of religion and divine power. Thus, the poor continued to live in the clutches of the powerful, accepting it as their destiny. They avoided confrontation and preferred to live a voiceless and suppressed life. Tolerating the worst and hoping for better days has been their way of life.

BACKGROUND OF THE PROBLEM

Until independence, India was exploited to the maximum by foreign rulers. Naturally, therefore, when the country gained independence, it inherited inter alia poverty in legacy. One of the main tasks before the vanguards of the nation during the post-independence era was to remove poverty and attendant misery of the masses and reconstruct the economic structure of the society.

The first thirty-six years of Independence were devoted to the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH PAPER | Economics | Volume : 5 | Issue : 8 | August 2015 | ISSN - 2249-555X

Child Labour in Rural India – Some Myths and Realities

KEYWORDS: Child labour, Elimination, Problems, Solutions

Dr. P. SOUNDARARAJAN

Assistant Professor, PG & Research Department of Economics, UrumuDhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu.

ABSTRACT Notwithstanding the promulgation of several policies followed by the formulation by International Organizations in addressing the problem of child labour, worldwide, the highest incidence of child labour is found in Indian Society. On this background this study tries to critically

evaluate the question of cultural roots of child labour and its correlations in Indian tradition which have been rooted in age-old traditions and which are now negotiating with new opportunities in the wake of the market economy. Deviating from numerous studies probing into this

issue of poverty and economic relations, this paper probes into the development contradictions of cultural traditions embedded with the meaningful semiotics which opens the possibility of alternative paradigmatic thought.

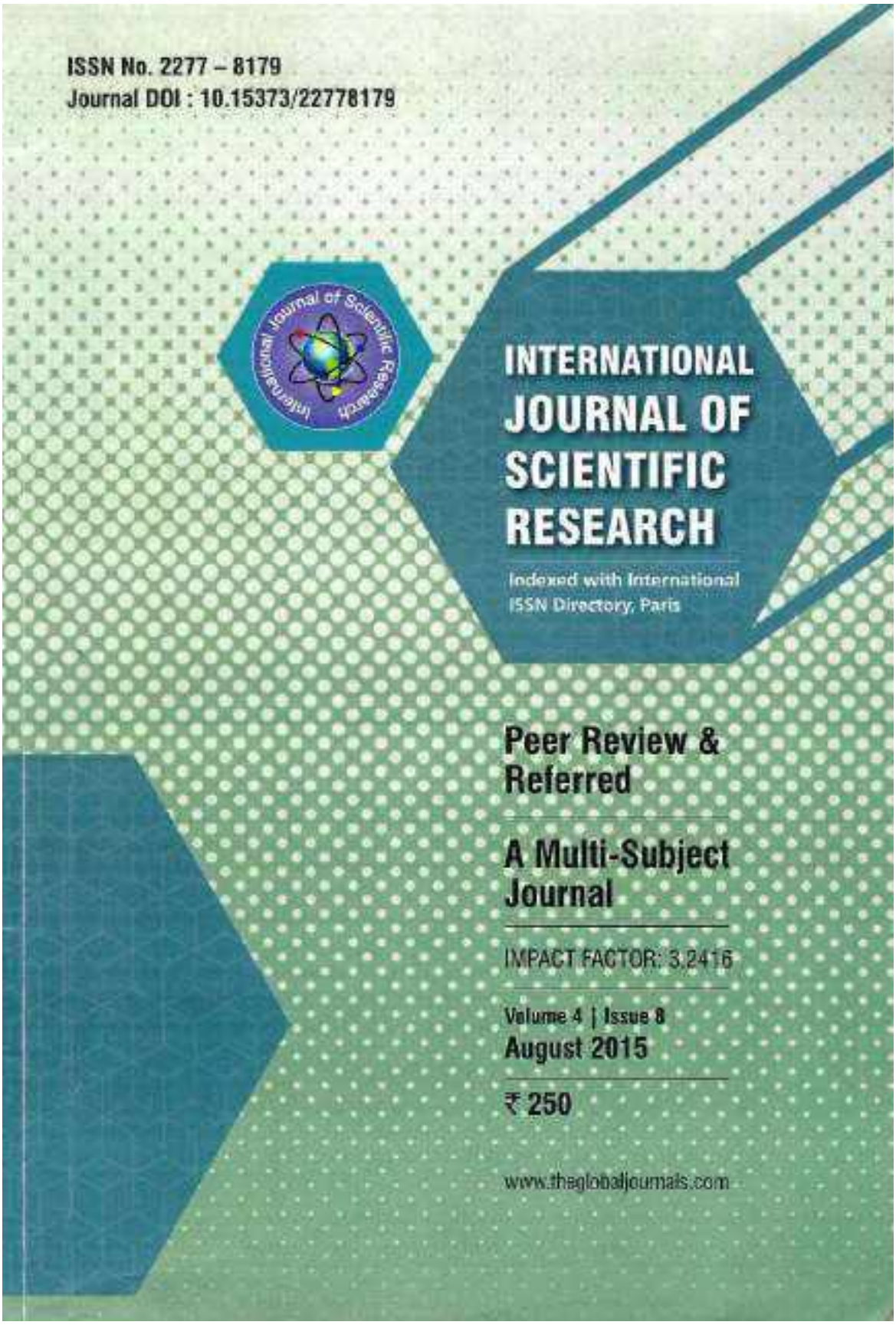
INTRODUCTION

The recent discourse on working children is an indication that this issue has become a central concern for developmental agencies and welfare states in search of overall development. The problem of child labour is not only a disgrace to developing nations but is also an issue of the future generations. Historically, it is difficult to trace the difference between labour and child labour since children have been learning various skills by observing and participating in occupational activities from their childhood in traditional simple societies (Shandilya and Khan, 2003: 33). Linking it with social norms, children were supposed to develop their personality and future role of adult within their family. This was considered a socialization process (Bose, 2003: 229). Since most of the traditional occupations have been family-based, children neither had difficult working conditions nor long working hours. Instead they were guided and motivated by their parents to learn skills. There was no question of child exploitation and any categorization of labour based on age differences was not an issue in traditional and simple societies (Singh, 1991:03). However, subsequently, serious socio-economic problems coupled with complex forms of division of labour produced by a market oriented society led to deterioration in the conditions of children participating in the labour market, particularly in developing societies.

Several instances of child labour have been found in 19 century Europe. For industrialising societies it was then considered insignificant falling under the purview of changing socio-political structure of society. This led to an epistemological conception of childhood as a separate category from adulthood which has gained acceptance everywhere. Henceforth the concept of universal primary education was accepted as a societal necessity thereby sending children to school rather than forcing them into wage labour (Bellamy, 2000 and Ingrid, 2004: 48). It is also indicative of the problems of most societies on the path of modernization that the very nature of this process itself creates new problems regarding child labour. The Marxists have criticised the functional role of schooling in their discourse where schooling is seen as primarily concerned with the production and conditioning of labour power and is to be addressed in the complex matrix of childhood days, schooling and adult labour. One

can presume that today's victims of child labour would be the potential unskilled labourer in the market of tomorrow. In other words, under project modernization, the perpetual bank of unskilled, unorganized labour, from a particular social group as against the skilled and professional manpower is conditioned by the labour market, which leads to a vicious cycle of recurring exploitation of the poor populace. In spite of instances of ratification by international institutions like the United Nations on the Rights of the Child, the issue becomes a source of worry in developing societies and in the discourse of developmental paradigms. According to the latest report estimated by ILO, there are 250 million working children in the world today (Stegeman, op. cit: 45). As far as the Indian condition is concerned, estimates of the number of working children varies with data collected by different agencies. Albeit, the number of child workers found in rural areas under the age of 15 amounted to over 89 percent in 1991. An empirical study shows that child migration from rural areas was rampant and most of these children belonged to landless families (Sharma and Vivek Mittal, 1990: 118-124 and Sharma, 2001). It clearly shows that the incidence of child labour has occurred more in rural areas. Another important factor drawn from several studies is the linkage between child labour and poverty (Kabeer, Nambissan and Subramanian, 2003, Tripathy, 1989, Murty, 1990, and Sharma and Vishwa, 1990). Paradoxically, though the poverty level in India has come down slowly over the years through the effort of poverty eradication programmes by the state and civil society, incidence of child labour has remained high in India. It totally disproves the very basis of attributing child labour to poverty. Historical experience in India does not support the argument of child labour being linked with poverty (Antony and Gayathri, 2002: 5186). Further, state level analysis shows that states with low incidence of child labour are not necessarily the rich states (Mallendra and Ravi, 2002). But it does not mean that poverty is irrelevant in this domain. At a time where the entire discourse of social science is focused on the search for multiple paradigmatic thought so as to explore the social conditions of

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Problems of Child Labour In India Under Globlisation Era - Some Solutions

Economics

KEYWORDS: Child labour-Real Picture under Globalization Problems-Solutions

Dr. P. SOUNDARARAJAN — Assistant Professor, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu.

ABSTRACT

Child labour is a complex problem basically rooted in poverty. The Government of India has formulated policies since the economic reforms of the early 1990s. Children under fourteen comprise 3.6 per cent of the total labour force in India. Nearly eighty five per cent are engaged in the traditional agricultural sector, four times more per cent in manufacturing, services and repairs and only about 0.5 per cent are in factories. The elimination of child labour is a priority and is being implemented at the grass roots level in India. A large number of non-governmental and voluntary organizations are involved in this process along with educational and international organizations. This paper reviews the child labour scenario in India and analyses the effect of globalization on child labour.

INTRODUCTION

Global movement against child labour has emerged as an important international debate since the 1990s. According to the International Labour Organization (ILO), there are more than 360 million children economically active around the world. Discussion on child labour has been stimulated as a contemporary issue on globalisation and international labour standards. Incidence of total child labour in India is around 10.4 million and has been declining in recent decades. It. There are enormous regional variations in its incidence and pace of decline.

The current wave of globalisation started after World War II, but accelerated since the 1980s in developed and some developing countries. Is there a direct link between globalisation and child labour. The literature on this issue cannot provide a definitive conclusion. Both the proponents and opponents of globalisation have explained the effect of globalisation on child labour with arguments. According to the proponents, the international free market will reduce the necessity of child labour with overall economic development through higher income and standard of living. According to the opponents, globalisation increases the opportunity of exploiting cheap labour particularly from poor countries. Countries like Vietnam, Thailand and Mexico have experienced a steep decline in child labour while other countries like Bolivia and Zambia have witnessed a decline in schooling and a rise of child labour. Labour participation rates for children have declined significantly in different regions of the world. India is slightly above the world average in the case of the children participation rate.

Most of the theoretical literature on child labour (Basu and Van 1998, Bass 2003) focuses on poverty and credit constraints as the main causes of child labour. Other studies based on the impact of trade, technological change and economic conditions and their effects on incidence of child labour in India, parental poverty and illiteracy; lack of awareness; social and economic circumstances; lack of access to basic and meaningful quality education; high rates of adult unemployment and underemployment; cultural values of the family and society are the major factors generating child labour. In this paper, we identify various background factors related with the persistence of child labour in India and their changes over the years. The paper is organized as follows. Section II deals with historical perspectives in the Indian context. Section III provides explanations of drivers of child labour and their changes due to globalisation. Levels and rates of change of child labour in Indian states are discussed in Section IV. The final section provides a status report on the initiatives undertaken at the national, state and international levels and their implications.

HISTORICAL PERSPECTIVES: THE CHILD LABOUR SITUATION IN INDIA

Child labour is a colossal problem in India and is deep rooted with poverty. Over 400 million people live below the poverty line and 60 per cent of its active population work in the informal sector. According to the 1991 census, there are 11.2 million working children out of a total 210 million children aged 5-14 years. Amongst them, 9.8 million are classified as 'main' workers and 2.2 million as 'marginal' workers, vast disparities in literacy rates across gender since the 1950s. Overall the literacy rate has increased from 16 per cent to 65 per cent between 1951 and 2001. Between 1991 and 2001, the number of illiterates has in absolute terms decreased by 31.9 million. The number of literates, on the other hand, has increased by 203.6 million.

within 10 years. During this period, the female literacy rate has increased by 14.87 per cent as against 11.72 per cent in the case of males, hence reducing the gap between males and females by 2.7 per cent. The educational level of working children in rural and urban areas. In 1991, only 13.61 per cent of male child workers and 8.19 per cent of female child workers had primary level education. A Public Report on Basic Education (1998) was produced by the Centre for Development Economics in the Delhi School of Economics along with other institutions. They conducted a survey in 188 randomly selected villages in Bihar and Madhya Pradesh enquiring about schooling facilities in late 1996. The UNICEF team also interviewed 3,021 households. Sending children to school was found to be expensive for poor parents. Moreover, the quality of schooling in rural areas discourages parents from making such effort. Table 4 analyses the employment status of working children in different sectors both in rural and urban areas in 1993-94. Over 80 per cent boys and girls amongst working children are employed in the rural agricultural sector. More than 54 per cent of them are self- employed without any social protection. In urban areas, 82 per cent of children work in the non-agricultural sector such as manufacturing, mining, housing and are engaged in all sorts of industrial work. Child servitude is both a tradition and a status symbol in India, particularly involving girls. Child workers are mostly from deprived sections of society with parents living in urban areas with high unemployment and underemployment, from poor and landless rural communities, minorities and immigrants.

Along with these factors, the existence of the caste system and sexual discrimination against girls - are also quite common to force children particularly girls to start working from an early age.

Child labour is most common in rural areas and mostly in the informal sector. Children often perform hazardous tasks. In the leather tanning industry, children are exposed to corrosive chemicals and bacterial contamination from hides. In the glass manufacturing industry of Firozabad, in northern India, children work under exploitative conditions in small workshops or private homes for low wages. Children weld the ends of glass bangle bracelets, sort bangles, engrave them on grinding wheels

Certificate of Publication

ISSN No: 2277-8179
IMPACT FACTOR: 3.2416

This is to certify that

Prof./Dr. **P. SOUNDARARAJAN**

has contributed a paper as author/ Co-author to

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

*Title "*PROBLEMS OF CHILD LABOUR IN INDIA UNDER GLOBLISATION ERA - SOME SOLUTIONS*"*

and has got published in volume **04**, *Issue* **08**, **August-2015**

The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

283 *Executive Editor* | *Editor in Chief* | *Member, Editorial Board*

Certificate of Publication

ISSN No: 2249-555X
IMPACT FACTOR: 3.6241

This is to certify that

Prof./Dr. **P. SOUNDARARAJAN**

has contributed a paper as author/ Co-author to

INDIAN JOURNAL OF APPLIED RESEARCH

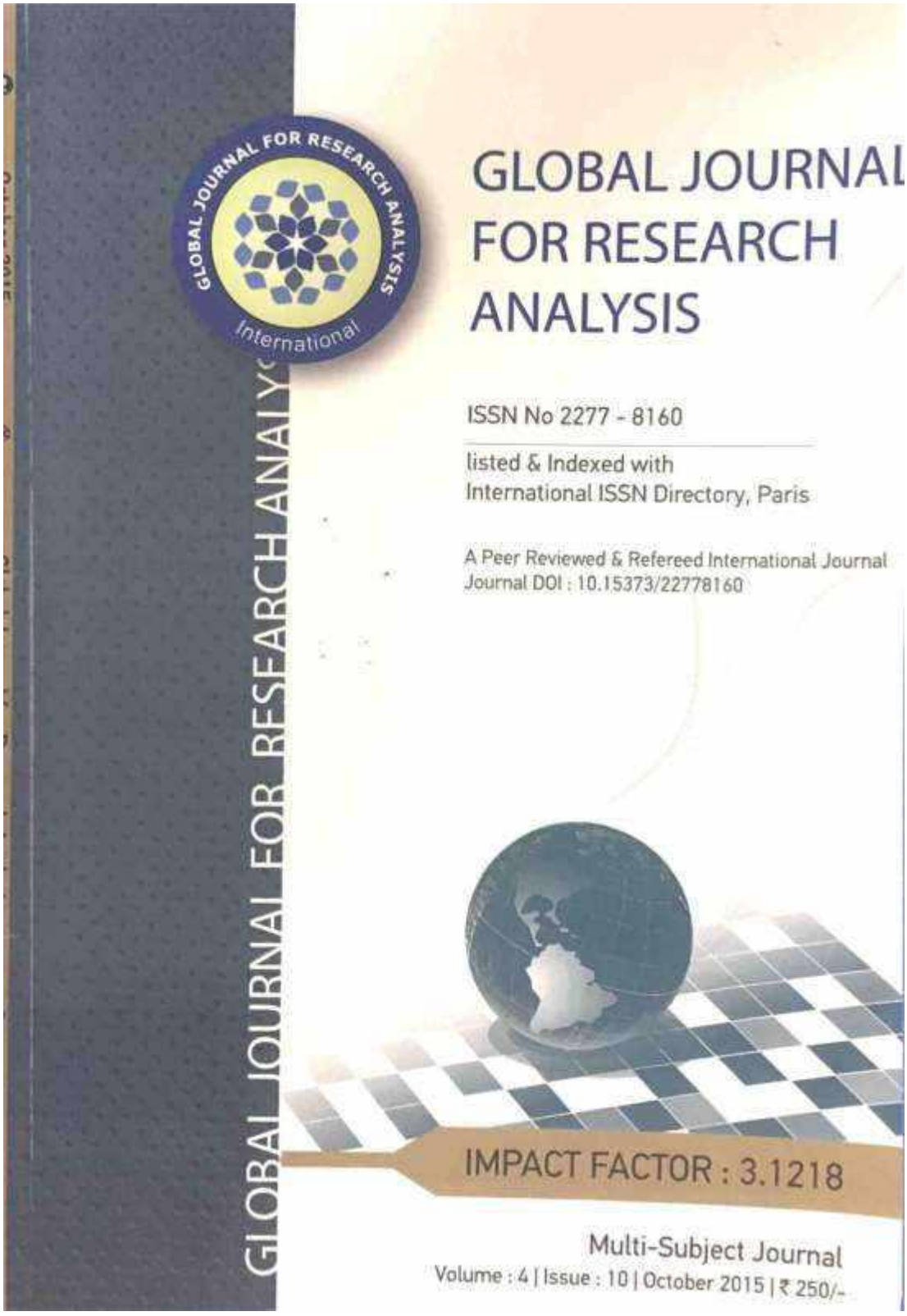
Title " CHILD LABOUR IN RURAL INDIA - SOME MYTHS AND REALITIES *"*

and has got published in volume **05**, *Issue* **08**, **August-2015**

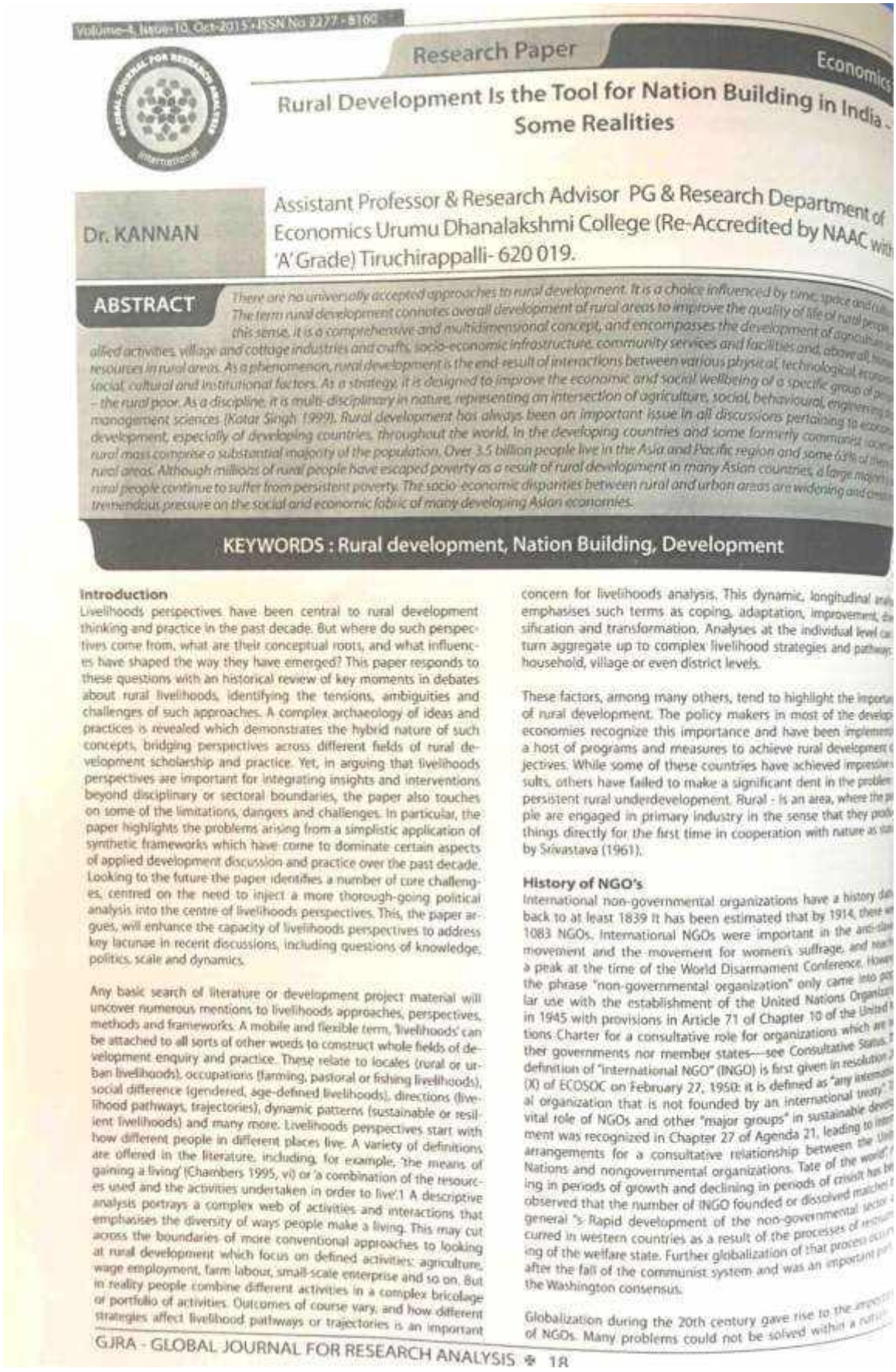
The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

Executive Editor | *Editor in Chief* | *Member, Editorial Board*

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC



Volume-5, Issue-10, Oct-2015 • ISSN No 2277 - 8160

Research Paper

Economics

Rural Development Is the Tool for Nation Building in India - Some Realities

Dr. KANNAN

Assistant Professor & Research Advisor PG & Research Department of Economics Urumu Dhanalakshmi College (Re-Accredited by NAAC with 'A' Grade) Tiruchirappalli- 620 019.

ABSTRACT

There are no universally accepted approaches to rural development. It is a choice influenced by time, space and [illegible]. The term rural development connotes overall development of rural areas to improve the quality of life of rural people [illegible]. this sense, it is a comprehensive and multidimensional concept, and encompasses the development of agriculture [illegible] allied activities, village and cottage industries and crafts, socio-economic infrastructure, community services and facilities and, above all, human resources in rural areas. As a phenomenon, rural development is the end-result of interactions between various physical, technological, economic, social, cultural and institutional factors. As a strategy, it is designed to improve the economic and social wellbeing of a specific group of people – the rural poor. As a discipline, it is multi-disciplinary in nature, representing an intersection of agriculture, social, behavioural, engineering and management sciences (Katar Singh 1999). Rural development has always been an important issue in all discussions pertaining to economic development, especially of developing countries, throughout the world. In the developing countries and some formerly communist countries rural mass comprise a substantial majority of the population. Over 3.5 billion people live in the Asia and Pacific region and some 63% of them in rural areas. Although millions of rural people have escaped poverty as a result of rural development in many Asian countries, a large majority of rural people continue to suffer from persistent poverty. The socio-economic disparities between rural and urban areas are widening and creating tremendous pressure on the social and economic fabric of many developing Asian economies.

KEYWORDS : Rural development, Nation Building, Development

Introduction

Livelihoods perspectives have been central to rural development thinking and practice in the past decade. But where do such perspectives come from, what are their conceptual roots, and what influences have shaped the way they have emerged? This paper responds to these questions with an historical review of key moments in debates about rural livelihoods, identifying the tensions, ambiguities and challenges of such approaches. A complex archaeology of ideas and practices is revealed which demonstrates the hybrid nature of such concepts, bridging perspectives across different fields of rural development scholarship and practice. Yet, in arguing that livelihoods perspectives are important for integrating insights and interventions beyond disciplinary or sectoral boundaries, the paper also touches on some of the limitations, dangers and challenges. In particular, the paper highlights the problems arising from a simplistic application of synthetic frameworks which have come to dominate certain aspects of applied development discussion and practice over the past decade. Looking to the future the paper identifies a number of core challenges, centred on the need to inject a more thorough-going political analysis into the centre of livelihoods perspectives. This, the paper argues, will enhance the capacity of livelihoods perspectives to address key lacunae in recent discussions, including questions of knowledge, politics, scale and dynamics.

Any basic search of literature or development project material will uncover numerous mentions to livelihoods approaches, perspectives, methods and frameworks. A mobile and flexible term, 'livelihoods' can be attached to all sorts of other words to construct whole fields of development enquiry and practice. These relate to locales (rural or urban livelihoods), occupations (farming, pastoral or fishing livelihoods), social difference (gendered, age-defined livelihoods), directions (livelihood pathways, trajectories), dynamic patterns (sustainable or resilient livelihoods) and many more. Livelihoods perspectives start with how different people in different places live. A variety of definitions are offered in the literature, including, for example, 'the means of gaining a living' (Chambers 1995, vi) or 'a combination of the resources used and the activities undertaken in order to live'.1 A descriptive analysis portrays a complex web of activities and interactions that emphasises the diversity of ways people make a living. This may cut across the boundaries of more conventional approaches to looking at rural development which focus on defined activities: agriculture, wage employment, farm labour, small-scale enterprise and so on. But in reality people combine different activities in a complex bricolage or portfolio of activities. Outcomes of course vary, and how different strategies affect livelihood pathways or trajectories is an important concern for livelihoods analysis. This dynamic, longitudinal [illegible] emphasises such terms as coping, adaptation, improvement, diversification and transformation. Analyses at the individual level can in turn aggregate up to complex livelihood strategies and pathways at household, village or even district levels.

These factors, among many others, tend to highlight the importance of rural development. The policy makers in most of the developing economies recognize this importance and have been implementing a host of programs and measures to achieve rural development objectives. While some of these countries have achieved impressive results, others have failed to make a significant dent in the problem of persistent rural underdevelopment. Rural - is an area, where the people are engaged in primary industry in the sense that they produce things directly for the first time in cooperation with nature as stated by Srivastava (1961).

History of NGO's

International non-governmental organizations have a history dating back to at least 1839 It has been estimated that by 1914, there were 1083 NGOs. International NGOs were important in the anti-slavery movement and the movement for women's suffrage, and reached a peak at the time of the World Disarmament Conference. However, the phrase "non-governmental organization" only came into popular use with the establishment of the United Nations Organization in 1945 with provisions in Article 71 of Chapter 10 of the United Nations Charter for a consultative role for organizations which are neither governments nor member states---see Consultative Status. The definition of "international NGO" (INGO) is first given in resolution 288 (X) of ECOSOC on February 27, 1950: it is defined as "any international organization that is not founded by an international treaty". The vital role of NGOs and other "major groups" in sustainable development was recognized in Chapter 27 of Agenda 21, leading to formal arrangements for a consultative relationship between the United Nations and nongovernmental organizations. Tate of the world's economy in periods of growth and declining in periods of crisist has been observed that the number of INGO founded or dissolved matches this general 's Rapid development of the non-governmental sector occurred in westeen countries as a result of the processes of restructuring of the welfare state. Further globalization of that process occurred after the fall of the communist system and was an important part of the Washington consensus.

Globalization during the 20th century gave rise to the emergence of NGOs. Many problems could not be solved within a national

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-6 | Issue-11 | November-2017 | ISSN - 2250-1991 | IF : 5.761 | IC Value : 79.96

ORIGINAL RESEARCH PAPER

Economics

KEY WORDS: Rural Health Care: Towards a Healthy Rural India

ISSUES AND CHALLENGES OF RURAL HEALTH CARE IN INDIA

Dr.N.Kannan Assistant Professor in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu.

A.Arockiyaraj Part time Research Scholar, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu.

INTRODUCTION

Rural Health care is one of biggest challenges facing the Health Ministry of India. With more than 70 percent population living in rural areas and low level of health facilities, mortality rates due to diseases are on a high. Download our Whitepaper Rural Health Care- Towards Healthy Rural India, on how technology can be leveraged for improving health care in Rural India, excerpts are below.

REALITY OF HEALTHCARE IN RURAL INDIA

Healthcare is the right of every individual but lack of quality infrastructure, dearth of qualified medical functionaries, and non-access to basic medicines and medical facilities thwarts its reach to 60% of population in India. A majority of 700 million people lives in rural areas where the condition of medical facilities is deplorable. Considering the picture of grim facts there is a dire need of new practices and procedures to ensure that quality and timely healthcare reaches the deprived corners of the Indian villages. Though a lot of policies and programs are being run by the Government but the success and effectiveness of these programs is questionable due to gaps in the implementation. In rural India, where the number of Primary health care centers (PHCs) is limited, 8% of the centers do not have doctors or medical staff, 39% do not have lab technicians and 18% PHCs do not even have a pharmacist.

India also accounts for the largest number of maternity deaths. A majority of these are in rural areas where maternal health care is poor. Even in private sector, health care is often confined to family planning and antenatal care and do not extend to more critical services like labor and delivery, where proper medical care can save life in the case of complications.

THE PROBLEMS

Due to non accessibility to public health care and low quality of health care services, a majority of people in India turn to the local private health sector as their first choice of care. If we look at the health landscape of India 92 percent of health care visits are to private providers of which 70 percent is urban population. However, private health care is expensive, often unregulated and variable in quality. Besides being unreliable for the illiterate, it is also unaffordable by low income rural folks.

To control the spread of diseases and reduce the growing rates of mortality due to lack of adequate health facilities, special attention needs to be given to the health care in rural areas. The key challenges in the healthcare sector are low quality of care, poor accountability, lack of awareness, and limited access to facilities.

Various organizations are coming together for improvements in health care and technology plays a crucial role to facilitate this. Information and communications Technology provides hosts of solutions for successful implementation of these changes.

TECHNOLOGY FOR RURAL HEALTH CARE

Several organizations are working alongside the government and NGOs to help relieve the burden on the public health system using mobile technology. India has over 900 million mobile phone users and this fact can be leveraged to employ better practices in even the remote areas. Leading global organizations of healthcare industry are using our mobile technology to enhance the quality of care and bridge the gaps in healthcare services.

Gram Vaani provides cutting- edge mobile and IVR solutions to automate processes and applies best practices in the field. Our services cater to health care sector, social sector, and corporate organizations for connecting with the difficult to reach markets at bottom of the pyramid.

By improving the systems and functions of our clients we have impacted thousands of lives in rural India. Through mobile and IVR services we have an extensive reach across the demography. Our initiative is focused on delivering best tools and solutions to our partners for reaching out to the rural markets and gives a platform to be directly connected to them. Leading global organizations of healthcare industry are using our technology to enhance the quality of care and bridge the gaps in healthcare services in rural India.

IMPROVING HEALTHCARE ON THE GROUND

They are employing mobile technology in several healthcare projects for leading global organizations. In partnership with the White Ribbon Alliance for Safe Motherhood, for a program of Merck for Mothers, we are working to upgrade the quality of maternity healthcare in India. There's growing evidence from developing countries confirming that patient's perception of quality of care and satisfaction with care are critical to utilization of health services. To this end, we are building a quality-of-care checklist for expectant mothers (and their families) to answer using mobile phones and rate on factors such as whether they were treated with respect during the delivery, whether they got entitlement for institutional delivery, whether the transportation provided was of good quality, etc.

This tool is constructive for:

- Making women aware of their rights to demand good quality of care,
- Bringing accountability by highlighting lapses in the health delivery process, and,
- Increasing uptake of appropriate health services at the right venues

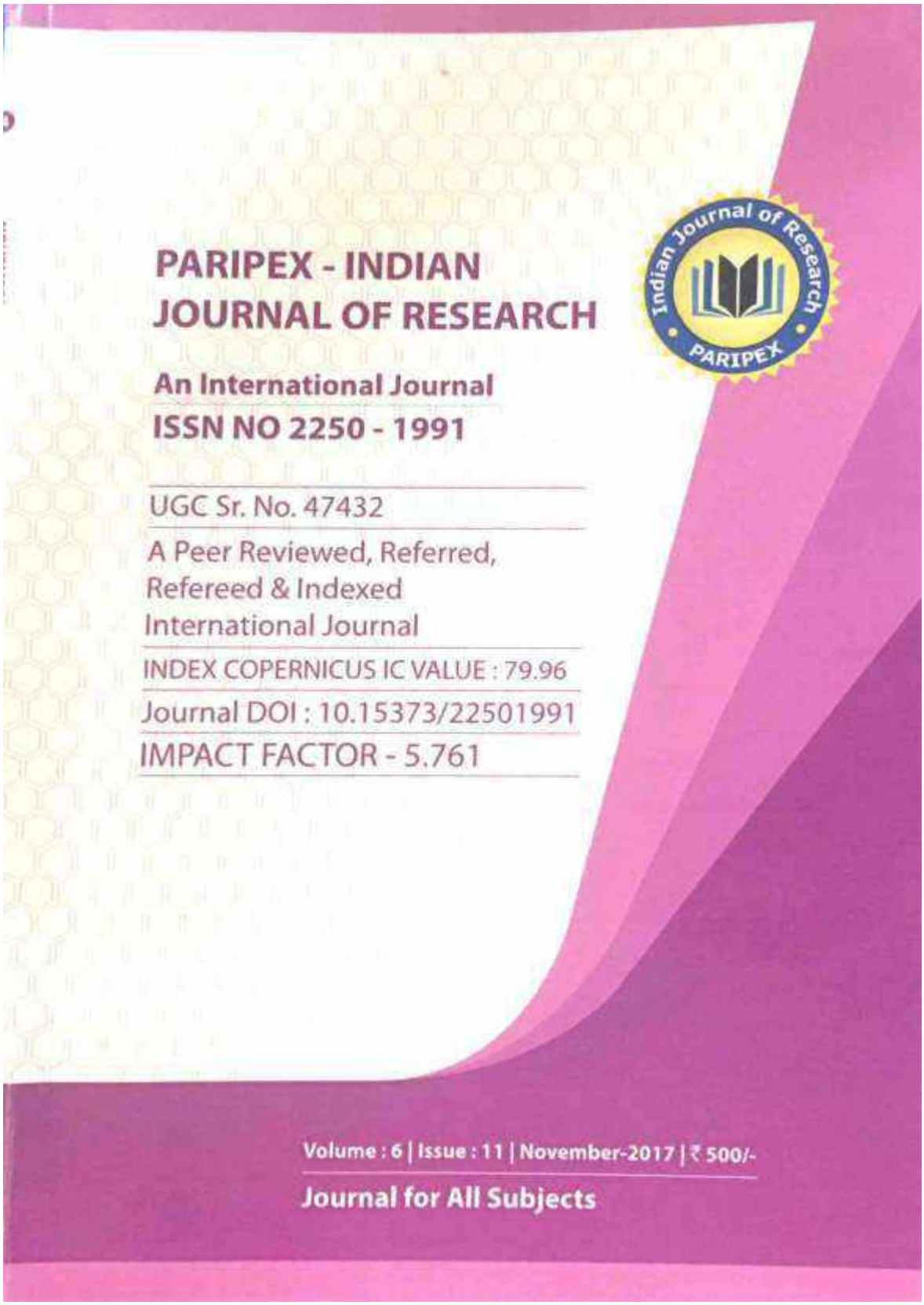
CAMPAIGNS FOR HEALTHCARE ACCOUNTABILITY

In association with Grand Challenges Canada, we conducted a Health campaign to review health services for accountability in Jharkhand. In this campaign on Mobile Vaani we invited opinions, experiences, information and feedback from public on current Government health facilities in Jharkhand.

People from different districts of Jharkhand left messages on various issues in health care facilities, such as, health facilities available at PHCs, Laboratory testing and Delivery facilities at Government Health Centers, availability of clean toilet and drinking water at PHCs, and distance of the nearest health center from the Village.

Within the first 4 weeks of the campaign, more than 1600 callers from 12 districts of Jharkhand called in and participated. Lot of important facts were brought forward in the campaign. 50 percent of the people informed that there was no facility of

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

VOLUME-6, ISSUE-11, NOVEMBER-2017 • ISSN No 2277 - 8160

Original Research Paper — Economics

CHANGING CONSUMPTION PATTERN OF RURAL PEOPLE IN THE LINES OF NEW ECONOMIC POLICY IN INDIA

Mrs.V.Kanimozhi — MA., M.Phil., Full time Research Scholar

Dr.N.Kannan — MA., M.Phil., B.Ed., Ph.D., MBA, PGDCA Assistant Professor, PG&Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli - 620019. Tamil Nadu

KEYWORDS : Consumption - Spending Behaviour - Diet Ratio - Poverty

INTRODUCTION

The 66th round (2009-10) of NSSO reveals that percentage of food expenditure to total monthly per capita food expenditure in rural Assam (64.4 percent) is not only higher than that of urban Assam but also than that of the country as a whole (rural and urban). This percentage of food expenditure is the second highest among the states next to Bihar. Also, percentage expenditure on food of both bottom and top percentile classes (68.9 percent 59.0 percent respectively) of rural Assam is higher than the corresponding classes of rural India (64.9 percent and 46.0 respectively). Contrary to this, per capita per day calorie intake in rural Assam (2120 kilocalories) is lower than that of urban Assam (2176 kilocalories) and rural India (2147 kilocalories) as well urban India (2123 kilocalories). As per various rounds of NSSO, rural Assam always (except 61th round. Table 1.1) shows a lower per capita calorie intake than that of rural India.

Estimated Per Capita Per Day Calorie Intake of Assam (Rural) and India (Rural)

Locati ons	Estimated per capita calorie intake (Kcal) per day in					
	1972- 1973	1983-84	1993-94	1999-00	2004-05	2009-10
Assam (rural)	2074	2056	1983	1915	2067	2120
India (rural)	2266	2221	2153	2149	2047	2147

Source: NSSO reports (various rounds)

Moreover, diversity of diet is also found to be low as bulk of calorie intake comes from cereals only. Per capita intake of protein and fat are also found low. Two rounds of NSSO (taken without any prior assumption) clear the fact (Table 1). As Table 1 clears, per consumer unit calorie intake (of average, top and bottom percentile classes) of rural Assam increase in periods between 199394 and 2009-10. However, it still falls below the national average (rural) in both the periods. Again, in 2009-10, 70.4 percent of bottom percentile class in rural Assam is found with per consumer unit calorie intake less than 80% of the norm of 2700 kilocalories. This percentage is also higher than the national average (rural) of 62.3 percent. Per consumer unit intake of protein and fat in rural Assam are also found to be lower than that of rural India in both the rounds.

Comparison of Calorie Intake in Assam and India (in Two Rounds of NSSO)

Indicators related to food consumption		50th round (1993-94)		66th round (2009-10)	
		Assam (rural)	India (rural)	Assam (rural)	India (rural) *
Per consumer unit calorie intake (kcls)	Average	2406	2683	2579	2647
	Bottom 10%	1369	1700	1936	2007
	Top10%	3338	3985	3351	3591
Percentage of households with per consumer unit calorie intake below 80% of 2700 calories (in 1000 households)	Average	27.8	22.7	17.3	19.4
	Bottom 10%	100.0	82.7	70.4	62.3
	Top10%	0.0	2.7	0.1	2.4
Percentage of per consumer unit calorie intake from cereals	Average	76.4	71.0	70.0	60.4
	Bottom 10%	80.1	83.4	77.7	72.7
	Top10%	65.4	55.2	60.4	47.4
Per consumer unit protein intake (gram)	Average	66.2	73.1	60.2	75.0
	Bottom 10%	46.9	53.6	35.3	48.6
	Top10%	91.2	100.7	86.9	113.2
Per consumer unit fat intake (gram)	Average	25.5	31.4	34.8	53.1
	Bottom 10%	9.9	12.1	20.2	26.6
	Top10%	49.5	72.3	56.9	96.3

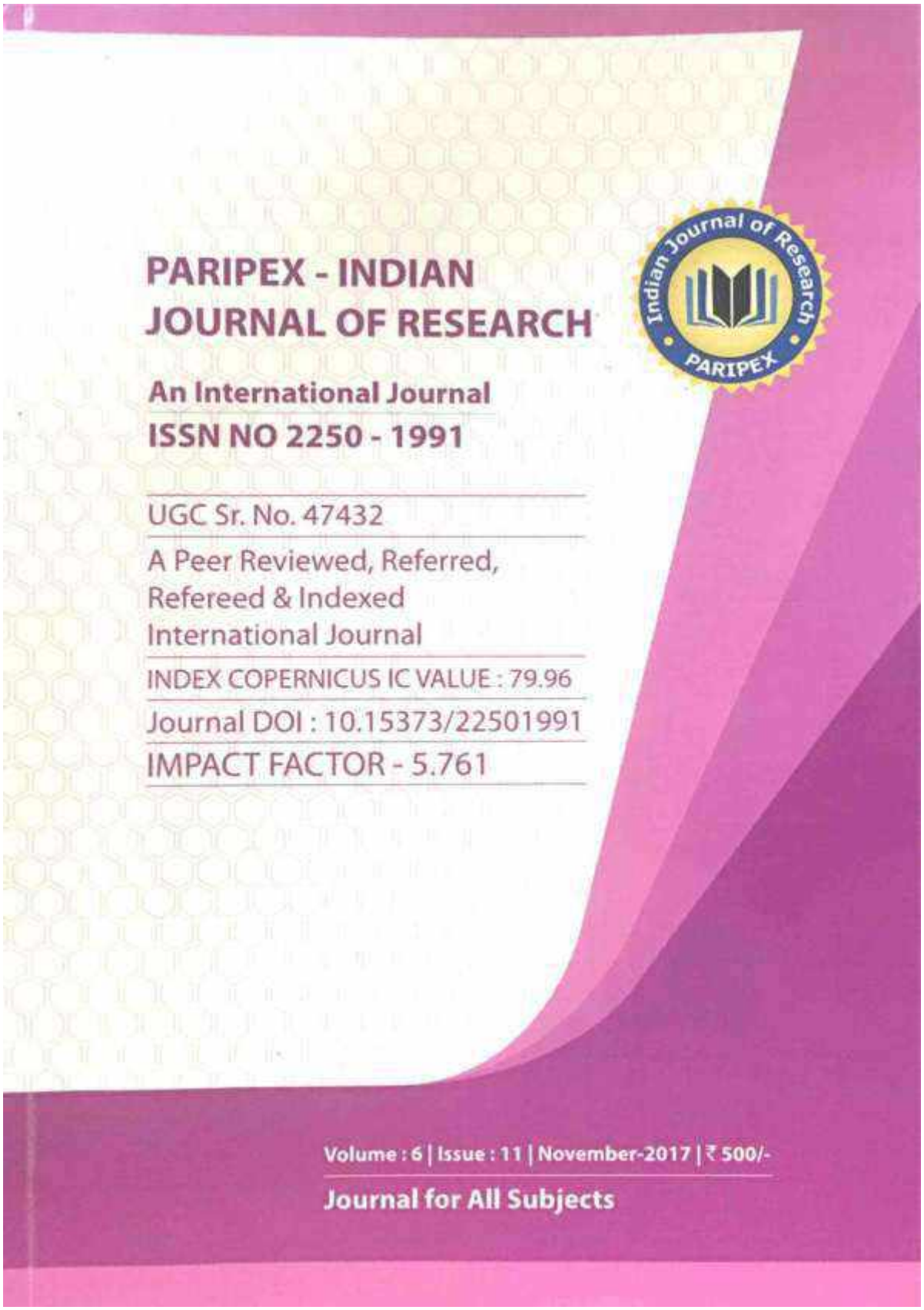
Source: respective NSSO rounds

These findings are often contrary to the level of self- reported hunger. Moreover, there has been found several reports of malfunctioning of the Public Distribution System in the state. Observations discussed above are basically based on secondary sources of information. In Assam, so far the available literature is concerned, there have not been found any research work exhibiting food security status of the rural households. Considering this gap, a study has been conducted as part of doctoral research. Basically from economic accessibility of food, this micro level study tries to give an assessment of food security level of the people residing in Kamrup (rural) district of Assam. As per 2011 census, a high 85.92 percent of total population of the state lives in rural areas. It takes three community development blocks of the district as the study area. Kamrup (Rural) is the only rural district of the state comprising 90.64 percent rural population.

REVIEW OF LITERATURE

A detail account of the review of literature regarding the concept

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-6 | Issue-11 | November-2017 | ISSN - 2250-1991 | IF : 5.761 | IC Value : 79.96

ORIGINAL RESEARCH PAPER

Economics

A PERSPECTIVE STUDY ON RURAL DEVELOPMENT UNDER GLOBALIZATION - SOME THREATS AND OPPORTUNITIES

KEY WORDS: Globalization – Rural Development – Threats – Opportunities

Mrs. V. Kanimozhi MA., M.Phil, Full Time Research Scholar

Dr. N. Kannan Assistant Professor, PG&Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli - 620019, Tamil Nadu

INTRODUCTION

In a globalized world the dynamics of rural development in India has changed immensely. Globalization, free trade and privatization have brought about many positive and negative impacts on rural development. This article tries to focus on three major impacts of globalization on rural development such as impact on environment, poverty and women. In responding to the research questions that how globalization affected environmental degradation, what impact it has done on poverty reduction and women in India, the author used a combination of both quantitative and qualitative methods. From the content analysis it was observed that globalization has seriously affected environment such as land degradation; deforestation; soil erosion; soil fertility loss; water logging; salinity and toxification of soils; damage and destruction of coral reefs, mangroves, fisheries; loss of bio-diversity and ecosystem; pollution of air and water bodies etc. that caused huge environmental disasters in India. The research findings relating to impact of globalization on poverty reduction unearthed the fact that due to huge remittance from the expatriate foreign labours, exponential increases of agricultural growth especially in cereal crops and increase in labour cost have contributed to reduction of rural poverty in India. The increase of agricultural growth was the end result of massive privatization of agricultural sector in India that in fact helped the rich farmers to adopt HYV and modern agricultural practices, agrochemicals, pesticides, fertilizers; and privatization also helped them availing of low cost tube wells and agricultural inputs, increase of irrigation facilities. But the poor farmers were hardly affected by the privatization strategy. But the negative scenario in case of poverty is that globalization has increased income inequality in India. Lastly, from both content analysis and case studies, it was found that globalization has created employment opportunities of women in the garments industries (RMG) in the export processing zones of India. Mostly these women are the poverty stricken women who migrated to city areas from rural areas for employment but the foreign investors are exploited these women by providing a low salary and employed them excessive hours for ensuring their optimum production. The article concludes that government should immediately enact laws so that without establishing treatment plants, nobody is allowed to set up industry in India for the greater interest of the future generation. Government should also create more employment opportunities in order to reduce income inequality. In order to reduce exploitation of women, government should fix minimum wage and working hour and should help promote some basic amenities for the women workers working in those foreign companies. In a globalized world, it is not possible to live alone keeping isolated India from the rest of the world. Therefore, India has no choice but to be integrated with the global economic system. Hence, the best way to deal with globalization is to coexist with it so that India can solve its problems utilizing mutual cooperation and collaboration at regional and global levels.

BACKDROP

Globalization has emerged as an irresistible force to sway the economic, social and cultural activities to all states of the world. The unobstructed or free trade of goods, services, capital, technologies, ideas, information and human resources etc. across the globe appears to be the overwhelming demand of globalization, and there is hardly any scope to escape from this reality. Globalization has both positive and negative corisequences and implications to all nations. It brings opportunities and poses threats to the rural communities. Free trade, privatization and its concomitant competitive market forces are increasingly putting the rural economy at stake. In order to reverse the situation, the threats have to be coped with and opportunities have to be grasped. The aggressive advancement of globalization coupled with market economy has been persistently changing the old concepts, practices and systems of rural development, especially in the developing countries. Against such a back drop, through this paper, an effort is employed to delve into the impact of globalization on rural development in India.

CONCEPT AND ISSUES OF RURAL DEVELOPMENT

The concept of rural development is all embracing encompassing multidimensional factors of rural life. Conceptually rural development is multidisciplinary relating to economics, political science, public administration, public health, business management, cooperative credit, community operation, calculation and other fields (Mashreque and Nasrullah, 2005:1). The World Bank (quoted in Obaidullah, 1995) defines rural development as a strategy designed to improve the economic and social life of a specific group of people. It involves extending benefits of development to the groups who seek a livelihood in the rural areas. It seems that the concept that appears in the sector policy papers of World Bank has a reference point for the amelioration of the conditions of the poor that include marginal farmer, landless, sharecroppers, tenants, small traders and other occupational groups who lived at subsistence level. Rural development means raising the productivity and consequently the real income of families earning their livelihood in rural areas, by increasing employment opportunities in farm and non-farm activities, there by facilitating their levels of physical, social and cultural well-being (Sen, 1996). It encompasses wide range of developmental activities involving productive sectors like agriculture, fisheries, livestock, industries, infrastructural development (irrigation, roads, electricity, etc.), social welfare (health, nutrition, deduction, etc.) and support for productive activities like research, extension, credit, processing, marketing, etc. Thus, rural development is everywhere a concept, which confronts governments with every complex problem of administrative management including the orchestration of numerous public services and non-governmental organisational efforts.

Rural development means creation of those values, socio-economic systems, institutions and incentives which will provide people greater meaning and purpose to life and will assure reasonable satisfaction of basic, physiological, psychological and aesthetic needs to all members of the rural society (Ahmed, 1983). Very often little distinction is made between national development strategy and rural development policy in political discussions, planning exercises and academic discourses. According to President Julias Nyerere of Tanzania "A policy of rural development is a policy for national development". Such a policy of rural development as a strategy for national development is necessary for countries having a sizeable rural sector (Todaro, 1991). Rural development connotes the idea of development which implies induced qualitative and qualitative changes in a socially desirable direction (Faizullah,1981). It means improvement of living standard of rural people. It involves change in agricultural and industrial productivity of the rural sector changes in health, education and communication levels, changes in attitudes of life of rural people towards better thinking and better living. It includes

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ORIGINAL RESEARCH PAPER

Volume-6 | Issue-12 | December-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 93.98

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

GLOBALIZATION AND ITS EFFECTS ON WORLD AGRICULTURAL TRADE 1960–2050

Economics

Mrs. K. Sangeetha MA., M.Phil, Full Time Research Scholar Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli - 620019. Tamil Nadu

Dr. N. Kannan Assistant Professor, PG&Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli - 620019. Tamil Nadu

KEYWORDS

Agriculture – Globalization – World Level - Effects

INTRODUCTION

Recent globalization has been characterized by a decline in the costs of cross-border trade in farm and other products. It has been driven primarily by the information and communication technology revolution and—in the case of farm products—by reductions in governmental distortions to agricultural production, consumption and trade. Both have boosted economic growth and reduced poverty globally, especially in Asia. The first but maybe not the second of these drivers will continue in coming decades. World food prices will depend also on whether (and if so by how much) farm productivity growth continues to outpace demand growth and to what extent diets in emerging economies move towards livestock and horticultural products at the expense of staples. Demand in turn will be driven not only by population and income growth, but also by crude oil prices if they remain at current historically high levels, since that will affect biofuel demand. Climate change mitigation policies and adaptation, water market developments and market access standards particularly for transgenic foods will add to future production, price and trade uncertainties.

MAJOR ISSUES

One of the most striking features of economic development is the relative decline in the agricultural sector in growing economies. Also typical for countries with above-average population density is a decline in their agricultural comparative advantage as capital accumulation and industrialization proceed. An export-led boom in another sector, or large prolonged inflows of foreign aid, also weaken the international competitiveness of a country's farm sector. Changes in consumption patterns (the slow growth in consumption of farm products and, in middle-income countries, the move away from grains and other staples and towards livestock and horticultural products) also alter the net trade situation of countries. However, whether that leads to a decline or a rise in the overall food self-sufficiency in and net exports of total agricultural products depends also on productivity growth in farming relative to non-agricultural production **(Anderson 1987)**, and in trends in government assistance to farmers relative to producers of other tradables. In the past, price-distorting policies have gradually changed from disfavouring to favouring agriculture relative to other tradable sectors as *per capita incomes grow* **(Anderson 2009)**; globally, productivity growth has been faster in the farm sector than in other sectors **(Martin & Mitra 2001)**.

A further influence on agricultural trade has been the acceleration of globalization over the past quarter-century. That has been characterized by a rapid decline in the costs of cross-border trade in farm and other products, driven by declines in the costs of transporting bulky and perishable products long distances, the information and communication technology (ICT) revolution and major reductions in governmental distortions to agricultural trade. Together, these developments have boosted economic growth and reduced extreme poverty globally, and in the process altered global agricultural production, consumption and hence trade patterns.

This paper first examines the key drivers of the above developments over the past four or five decades and then draws on that analysis and recent events to suggest likely drivers of—and uncertainties associated with—global food and other agricultural trade trends over the next four decades.

KEY DRIVERS OF CHANGE SINCE 1960

The first part of this section summarizes the structural changes in global agricultural markets and trade since the 1960s. The second part outlines one set of drivers, namely rapid technological changes including those that have lowered trade costs for farm products over the past quarter-century. The third part summarizes reforms to agricultural and trade policies since the 1980s and economy-wide modelling results that suggest those reforms have more than halved the global trade- and welfare-reducing effects of price-distorting policies.

(a) Structural changes in global agricultural markets

One of the most striking features of economic development is the relative decline of the agricultural sector in growing economies. Also typical for countries with a reasonably high population density is a decline in their agricultural comparative advantage as industrialization proceeds (or when another sector such as mining, manufacturing or services enjoys an export-led boom or there is a sustained inflow of foreign aid). There is a wide dispersion across regions of the world in the importance of agriculture in national GDP and employment, in endowments of arable land and fresh water as well as capital per worker, in the availability of modern farm and non-farm technologies that take account of relative factor prices and hence in agricultural comparative advantage. Appropriate indicators of agricultural comparative advantage are difficult to assemble, because government policies that distort food markets are so pervasive and because of the range of technologies made available via adaptive research and development (R&D) investments to suit different relative factor scarcities **(Hayami & Ruttan 1985;** Alston *et al.* **2009*a,b*)**.

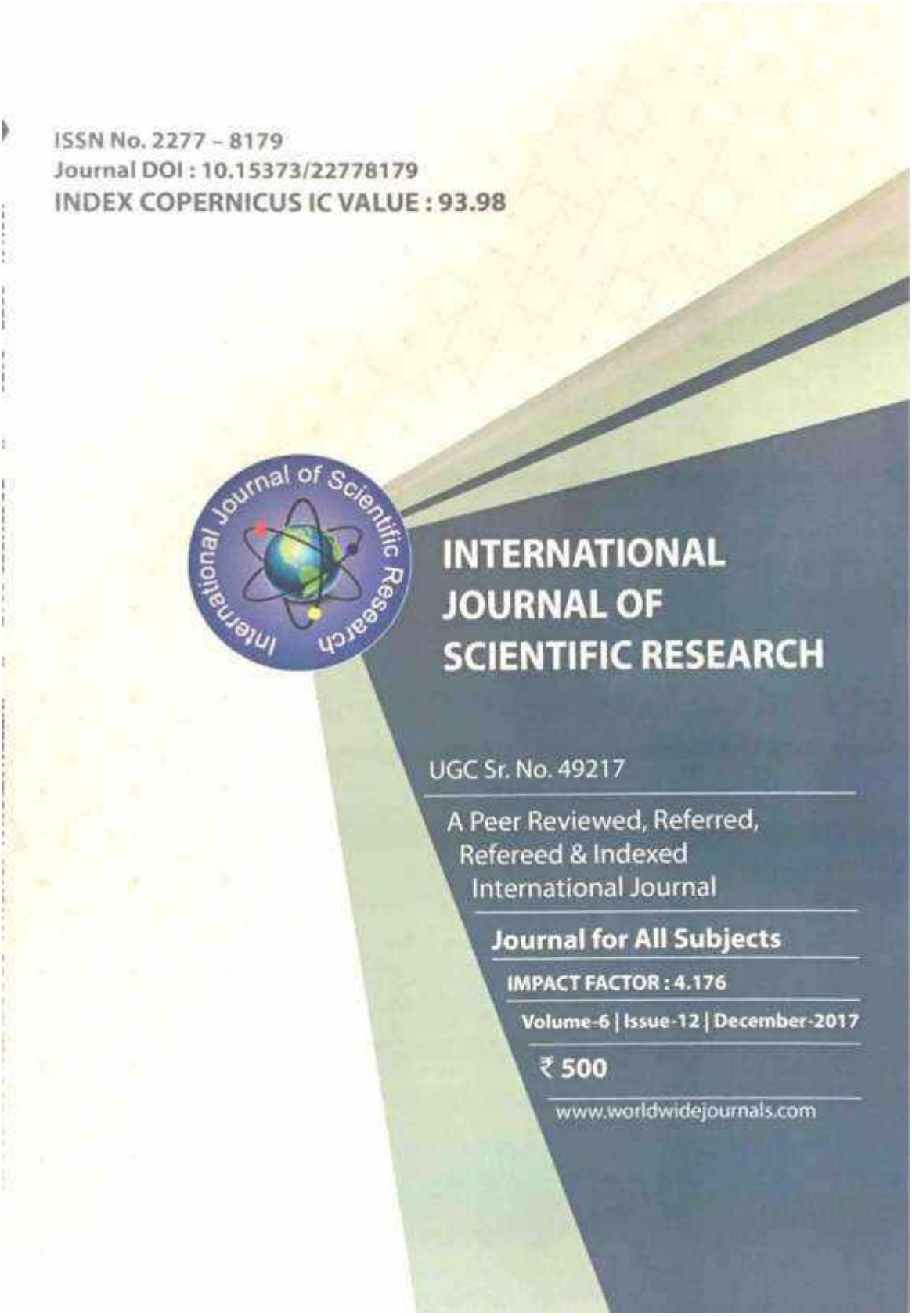
Global agricultural trade has grown much slower than trade in other products. Prior to the 1960s, farm products accounted for more than 30 per cent of all merchandise trade globally, but since the beginning of this century their share has averaged less than 9 per cent **(Sandri *et al.* 2007)**.

Since agriculture's share of global GDP has also fallen, a more appropriate indicator of the changing extent to which agriculture is globalized is the share of agricultural and food production or consumption that is traded internationally. Based on a sample of 75 countries that account for all but 1/10 of the world's population and agricultural GDP. Those numbers suggest that agriculture's tradability has increased considerably since the 1960s, rising from about one-ninth to about one-sixth of global production or consumption. However, a glance at the regional data reveals that most of that change is due to increased intra-European trade behind the EU's common external trade barrier, apart from some growth (from low bases) since the 1970s in agricultural imports by Asia and Latin America.

Export orientation, import dependence and self-sufficiency in global agricultural production, by region, 1961–2004 (per cent at undistorted prices). From **Anderson (2009**, ch. 1), compiled from **Anderson & Valenzuela (2008)** using estimates of total agricultural production valued at undistorted prices and the FAO's total agricultural trade value data for 65 countries that together account for about 90% of the world's population and agricultural GDP.

Particularly striking is the decline in the extent to which African agricultural production is exported, bringing down the region's agricultural self-sufficiency from 120 per cent to 105 per cent over the

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume-7 | Issue-12 | December-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 86.18

Original Research Paper

Economics

A SNAPSHOT ON AGRICULTURAL SCENARIO UNDER GLOBALIZED ERA

Mrs. K. Sangeetha — MA., M.Phil, Full Time Research Scholar

Dr. N. Kannan — Assistant Professor, PG&Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappalli - 620019. Tamil Nadu

KEYWORDS : Agriculture – Globalization – Recent Developments – Agri Business

INTRODUCTION

The liberalisation of India's economy was adopted by India in 1991. Facing a severe economic crisis, India approached the IMF for a loan, and the IMF granted what is called a 'structural adjustment' loan, which is a loan with certain conditions attached which relate to a structural change in the economy. The government ushered in a new era of economic reforms based on these conditions. These reforms (broadly called Liberalisation by the Indian media) can be broadly classified into three areas: Liberalisation, privatization and globalization. Essentially, the reforms sought to gradually phase out government control of the market (liberalisation), privatize public sector organizations (privatization), and reduce export subsidies and import barriers to enable free trade (globalization). There was a considerable amount of debate in India at the time of the introduction of the reforms, it being a dramatic departure from the protectionist, socialist nature of the Indian economy up until then. However, reforms in the agricultural sector in particular came under severe criticism in the late 1990s, when 21 farmers in the south Indian state of Andhra Pradesh committed suicide. (The damage done, 2005) The trend was noticed in several other states, and the figure today, according to a leading journalist and activist, P. Sainath1, stands at 100,000 across the country. (Sainath, 2006) Coupled with this was a sharp drop in agricultural growth from 4.69% in 1991 to 2.06% in 1997. (Agriculture Statistics at a Glance, 2006) This paper seeks to look into these and other similar negative trends in Indian agriculture today, and in analyzing the causes, will look at the extent to which liberalisation reforms have contributed to its current condition. It will look at supporting data from three Indian states which have been badly affected by the crisis: Andhra Pradesh, Maharashtra and Kerala. Andhra Pradesh's (AP's) experience is particularly critical in this debate because it was headed by Chief Minister Chandrababu Naidu, who pursued liberalization with enthusiasm. Hence liberalization in AP has been faster than other states, and the extent of its impact has been wider and deeper. **(Sainath, 2005)**

INDIAN AGRICULTURE TODAY: A SNAPSHOT

Agriculture employs 60% of the Indian population today, yet it contributes only 20.6% to the GDP. (Isaac, 2005) Agricultural production fell by 12.6% in 2003, one of the sharpest drops in independent India's history. Agricultural growth slowed from 4.69% in 1991 to 2.6% in 1997-1998 and to 1.1% in 2002-2003. (Agricultural Statistics at a Glance, 2006) This slowdown in agriculture is in contrast to the 6% growth rate of the Indian economy for almost the whole of the past decade. Farmer suicides were 12% of the total suicides in the country in 2000, the highest ever in independent India's history. (Unofficial estimates put them as high as 100,000 across the country, while government estimates are much lower at 25,000. This is largely because only those who hold the title of land in their names are considered farmers, and this ignores women farmers who rarely hold land titles, and other family members who run the farms.) (Sainath, P) Agricultural wages even today are $1.5 - $2.0 a day, some of the lowest in the world. (Isaac, 2005) Institutional credit (or regulated credit) accounts for only 20% of credit taken among small and marginal farmers in rural areas, with the remaining being provided by private moneylenders who charge interest rates as high as 24% a month. (Sainath, 2005) An NSSO2 survey in 2005 found that 66% of all farm households own less than one hectare of land. It also found that 48.6% of all farmer households are in debt. The same year, a report by the Commission of Farmer's welfare in Andhra Pradesh concluded that agriculture in the state was in 'an advanced stage of crisis', the most extreme manifestation of which was the rise in suicides among farmers. Given the performance of agriculture and figures of farmer suicides across the country, this can be said to apply to Indian agriculture as a whole.

THE CRISIS FACING INDIAN AGRICULTURE

The biggest problem Indian agriculture faces today and the number one cause of farmer suicides is debt. Forcing farmers into a debt trap are soaring input costs, the plummeting price of produce and a lack of proper credit facilities, which makes farmers turn to private moneylenders who charge exorbitant rates of interest. In order to repay these debts, farmers borrow again and get caught in a debt trap. I will examine each one these causes which led to the current crisis in Andhra Pradesh, Kerala and Maharashtra, and analyse the role that liberalisation policies have played.

As was mentioned earlier, AP's experience is particularly relevant in this analysis because of its leadership. Let me explain in detail. Chandrababu Naidu, Chief Minister of Andhra Pradesh from 1995-2004, was an IT savvy neo-liberal, and believed that the way to lead Andhra Pradesh into the future was through technology and an IT revolution. His zeal led to the first ever state level (as opposed to national level) agreement with the World Bank, which entailed a loan of USD 830 million (AUD 1 billion) in exchange to a series of reforms in AP's industry and government. Naidu envisaged corporate style agriculture in AP, and implemented World Bank liberalisation policies with great enthusiasm and gusto. He drew severe criticism from opponents, saying he was using AP as a laboratory for extreme neo-liberal experiments. Hence, AP's experience with liberalization is critical.

LIBERALISATION AND HOW IT FAILED

Branco Milanovic, a World Bank economist describes how he believes liberalisation helps developing countries achieve growth: 'when a country lowers trade barriers, reduces government intervention in the market in order to allow market forces to operate freely, increases competition and attracts foreign investment, it will increase productivity and reduce inefficiency, which will lead to economic growth, and in a few generations, if not less, the poor will become rich, illiteracy will disappear, and poor countries will catch up with the rich.' The second most popular argument of the economic rationalists in favour of liberalisation is that competition will weed out the inefficient, and in the growth that ensues, employment will be provided in other areas of the economy, thus lifting the poor out of poverty. This argument however assumes that the poor will be able to take advantage of the opportunities presented to them. As Robert Issac says in 'The Globalization Gap', "Globalization encourages the well positioned to use tools of economics and politics to exploit market opportunities, boost technical productivity, and maximize short-term material interests." This is compounded in India, where the gap between one who is 'well positioned' and one who is not can be extreme. With a lack of investment, chances of generation of rural employment are slim. Unemployment and underemployment are chronic problems in India, with the rate of unemployment being close to 10% in 2004. (Sainath, 2005) Primary education in rural areas is mismanaged and bad quality, and there is no system which helps agricultural workers find alternate employment, or develop alternate skills. (Cheesudovskiy, 1997) In the face of such obstacles, it is nearly impossible to expect agricultural workers to shift to alternate fields. Coming back to AP, the IT Revolution spearheaded by Chandrababu Naidu attracted companies like Google, Amazon, Microsoft and Dell and created thousands of jobs. However, given the skills and education of most farmers, it is

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ORIGINAL RESEARCH PAPER

Volume-7 | Issue-8 | August-2018 | ISSN No 2277 - 8179 | IF : 4.758 | IC Value : 93.98

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CAUSES AND CONSEQUENCES OF GLOBALIZATION AMONG THE AGRICULTURALISTS IN TIRUCHIRAPPALLI DISTRICT

Economics

Mrs.K.Sangeetha Full time Research Scholar, PG & Research Dept in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu.

Dr.N.Kannan* Assistant Professor in Economics, PG & Research Dept, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu. *Corresponding Author

ABSTRACT

India entered in the process of globalization by 1991, when there was a severe economic crisis in the country. To overcome the economic crises, India approached the International Monetary Fund for financial assistance. IMF granted such assistance on the condition to make some structural changes and reforms in Indian Economy. In 1994, 124 countries along with India were signed Dankel Proposal, giving the final pass to proposal World Trade Organization was established in January 1995. The member countries involved themselves in globalization through WTO. These reforms and changes can be broadly classified into three areas: Liberalization, privatization and globalization (LPG). It includes withdrawal of government control of the market, privatize public sector organizations and reduce export subsidies and import barriers to enable free trade.

KEYWORDS

Impact – Consequences – Causes – Remedies – Globalization.

INTRODUCTION

India signed GATT too and opens up its economy to the world market. Initially this process was restrained by the barriers to trade and investment but after liberalizing it, the pace of globalization has speeded up. As India is the country which is known as agrarian economy, it is essential to know that how agricultural sector in the country is connected to this process. Initially the World Trade Agreement of 1994 brought agriculture within its policy framework. The obligations and disciplines incorporated in the agreement which seek to reform trade in agriculture and provide the basis for market-oriented policies on agriculture, relate to the aspects of market access, domestic support, export competition/subsidies, and Trade Related Intellectual Property Rights (TRIPS). Some agreements are made for the simplicity in international dealings. Liberalization created an unprecedented demand in all sectors of trade including agriculture. This demanded pragmatism on the part of Indian Government. With globalization making headway everywhere, Government had to introduce reforms in agricultural sector too. Reforms in agricultural policies were felt necessary for achieving trade liberalization in the agricultural sector

General consequences of globalization on Indian agriculture:

With the operationalisation of the provisions of the World Trade Organisation, the process of globalization commenced in the major parts of the world. There has always been an air of confusion among the members and non-members of the WTO in assessing the pros and cons of globalization on the health of their economy. The sector which has created the highest number of deliberations in the WTO as well as views and counterviews has been the agriculture, an area of utmost concern for the developed and the developing world alike. India is no exception to it. Better say it has been among few countries in the world spear-heading the campaign against the biased provisions of the WTO concerning agriculture.

Following are some positive consequences of globalization on Indian agriculture.

A) POSITIVE CONSEQUENCES:

1) Availability of modern Agro- technologies:

There is availability of modern agro technologies in pesticides, herbicides, and fertilizers as well as new breeds of high yield crops were employed to increase food production. These technologies included modern implementations in irrigation projects, pesticides, synthetic nitrogen fertilizer and improved crop varieties developed through the conventional, science-based methods available at the time. Use of High Yielding Varieties (HYVs) like IR8 a semi-dwarf rice variety. HYVs significantly outperformed traditional varieties in the presence of adequate irrigation, pesticides, and fertilizers.

2) Rise in production and productivity:

Due to adoption of HYV technology the production of food grains increased considerably in the country. The production of wheat has increased from 8.8 million tones in 1965-66 to 184 million tones in 1991-92. The productivity of other food grains has increased considerably. It was 71% in case of cereals, 104%for wheat and 52% for paddy over the period 1965-66 and 1989-90.Though the food grain production has increased considerably but the green revolution has no impact on course cereals, pulses and few cash crops. In short the gains of green revolution have not been shared equally by all the crops.

3) Growth of National Income:

Receiving the international market for the agricultural goods of India, there is an increase in farmer's agricultural product. New technology, new seeds, new agriculture practices etc. helped to grow the agricultural product. From the monetary point of view the share of agriculture sector in the economy is raised to 14.2% of the GDP (2010-11).

4) New areas employment:

While exporting agricultural products it is necessary to classify the products, its standardization and processing, packing etc. Therefore, after LPG the agro allied industries has created employment in various sector like packing, exporting, standardizing, processing, transportation and cold storage etc. The industries depending on agriculture are stored and it made an increase in employments. Agriculture is the biggest unorganized sector of the Indian economy accounting for more than 90% share in the total unorganized labour force. The share of agriculture in total employment stands at 52.1%

5) Rise in the share in trade:

Because of the conditions of WTO all of the countries get the same opportunities, so there is an increase in the export of agricultural products. According to data provided by World Bank, India's share in exports (goods and services) rose from 0.54%in 1990 to 0.67% within five years after globalization took place i.e. upto 1999. Indian exports rose by 103% during the same period.

6) Growth of Agro exports:

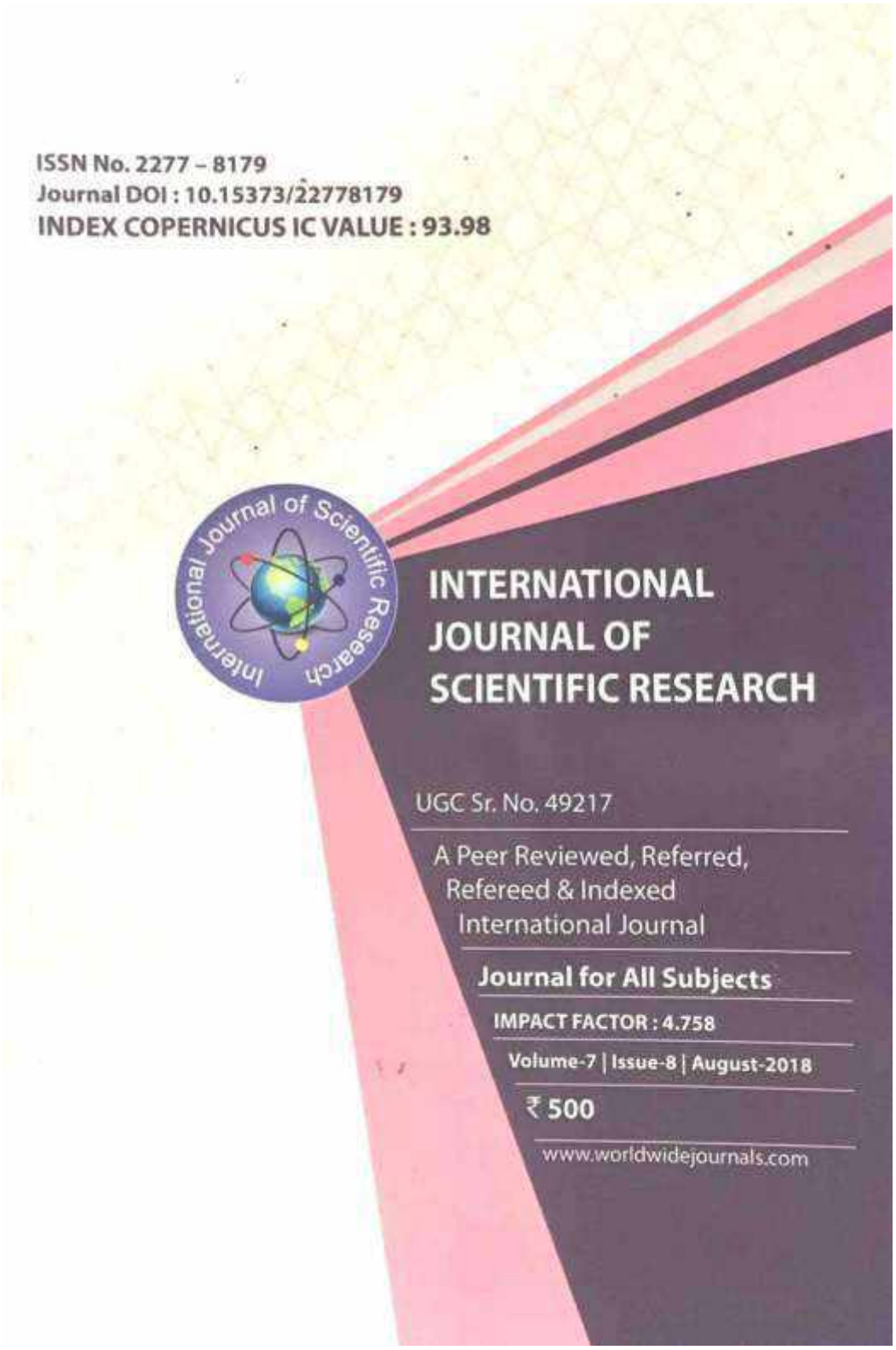
The prices of agricultural goods are higher in the international market than Indian markets. If the developed countries reduced grants, they have to increase in the prices. So there will be increase in the export in Indian market and if the prices grow, there will be profit. Agricultural products account for 10.23% of the total export income of the economy, while agricultural imports account for just 2.74% of the total imports. Agricultural exports was 33.54 billion $ in the year 201-13.

7) Reduction in poverty:

It is also true that globalization is commonly characterized as increasing the gap between the rich and the poor, but it is a matter of looking at poverty in relative terms. India's prior concern is to remove poverty, which is worse than death, and if India makes efforts, globalization can be a key to get rid of it. Moreover, the percentage of people below the poverty line has been decreasing progressively, from 36 percent in 1993-94 to 21.9 percent in 2011-12.

These are some positive consequences of globalization on Indian

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Research Paper

Volume-8 | Issue-8 | August-2018 | ISSN - 2249-555X | IF : 5.397 | IC Value : 86.18

Economics

PROMOTIONAL MEASURES FOR THE DEVELOPMENT OF MICRO AND SMALL MEDIUM ENTERPRISES IN TRICHIRAPPALLI DISTRICT - TAMILNADU

Mrs.V. Kanimozhi — Full time Research Scholar, PG & Research Dept in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu.

Dr. N. Kannan* — Assistant Professor in Economics, PG & Research Dept, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu. *Corresponding Author

ABSTRACT The Micro Small and Medium Enterprises sector occupies a significant role in the total manufacturing sector of the country and our state. Tamil Nadu has been in the forefront, with a proactive policy to stimulate the growth of this sector. Encouraging the development of a sound industrial base without losing focus on the micro, small and medium enterprises sector has been one of the unique features of our State's balanced industrial policy. The importance of Micro and Small Enterprises sector can be seen by the fact that it accounts for 95% of industrial units, 40% of output in manufacturing sector and 30% of exports. At present there are about 5.57 lakhs of registered micro and small enterprises in the State with a total investment of Rs.19,36,406 lakhs which have provided employment to nearly 40 lakhs persons.

KEYWORDS : Promotional Measures – Financial Assistance – Micro Units – Small Medium Enterprises

INTRODUCTION

In a response to the long standing demand of the SSI sector, and considering the emergent need to provide a legal framework to address the developmental concerns of what is globally known as "Small And Medium Enterprises", Government of India in its enactment of the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 has changed the nomenclature of SSI sector as Small and Medium Enterprises (SME) sector, giving due recognition to the enterprise segment and at the same time bringing or merging the medium sector into its fold.

THE COMMISSIONERATE OF INDUSTRIES AND COMMERCE

The Commissionerate of Industries and Commerce is the nodal agency for the development of Micro, Small and Medium enterprises in the State. The Commissionerate implements various programmes with emphasis on the development of industries in the State.

District Industries Centres are functioning in 32 Districts in Tamil Nadu except Chennai District where Regional Joint Director renders all help to the prospective entrepreneurs for starting micro, small and medium enterprises. District Industries Centres provide escort services to the entrepreneurs, i.e., in identification of industries, in the preparation of project profile, obtaining financial assistance from financial institutions, obtaining clearances from Government Departments and sanction and disbursement of subsidies and incentives.

MICRO SMALL AND MEDIUM ENTERPRISES DEVELOPMENT (MSMED) ACT, 2006

The Micro, Small and Medium Enterprises Development Act has classified the manufacturing enterprise in terms of investment in plant and machinery (excluding land and buildings) as indicated below:

Micro Manufacturing Enterprises	Upto Rs.25 lakhs
Small Manufacturing Enterprises	From Rs.25 lakhs and upto Rs.5 Crores
Medium Manufacturing Enterprises	From Rs.5 Crores and upto Rs.10 Crores

Similarly, Service Enterprises have been classified in terms of their investment in equipment (excluding land and buildings) as indicated below:-

Micro Service Enterprises	Upto Rs.10 lakhs
Small Service Enterprises	From Rs.10 lakhs and upto Rs.2 Crores
Medium Service Enterprises	From Rs.2 Crores and upto Rs.5 Crores

MICRO, SMALL AND MEDIUM INDUSTRIES POLICY - 2015

Announced in the Governor's Address in the Legislative Assembly on 23rd January 2015 **"Micro, Small and Medium Industries Policy-2015"**, an exclusive policy for micro, small and medium enterprises sector was released by Hon'ble Chief Minister on 2.2.2015.

VISION

- Enhance the competitiveness and scalable capacity of the micro, small and medium enterprises sector in Tamil Nadu.
- Encourage agro based industries for increasing value addition and giving better income to the farmers.
- Target a sustained annual growth rate of over 10% for micro, small and medium enterprises.
- Promote 10 lakhs direct and indirect employment opportunities during the XI Plan period.

The salient features of Micro, Small and Medium Industries Policy-2008 are given below:-

SCHEMES FOR INFRASTRUCTURE DEVELOPMENT

- Establishment of Multi-Storied Flatted Industrial Estates for micro enterprises for the first time in the State.
- Liberal Floor Space Index (FSI) up to 1.5 to 1.75 for industrial sheds and up to 2.5 for multi-storied industrial units.
- Reservation of upto 20 % of land in all SIPCOT estates, to be established in future, for micro, small and medium enterprises and upto 30 % of area for micro industries in SIDCO estates.
- An infrastructure subsidy of 20 % for the development of private sector industrial estates for the first time in the State, subject to a maximum of Rs.1 crore per estate.
- 50% Rebate on stamp-duty and registration charges for micro and small enterprises set up in industrial estates and also in industrially backward areas.

INCENTIVE SCHEMES

Exclusive subsidy schemes for micro manufacturing enterprises established anywhere in the State

- 15 % capital subsidy on the value of eligible plant and machinery subject to a maximum of Rs.3.75 lakhs.
- 20 % low tension power tariff subsidy for 36 months from the date of commencement of commercial production or from the date of power connection, whichever is later, after allotment of Entrepreneur Memorandum No. Part II.
- 100 % subsidy on the net value of value added tax (VAT) paid by them for the first 6 years upto the value of investment made in plant and machinery at the time of allotment of Entrepreneurs Memorandum No. Part II.
- Stamp duty exemption on mortgaged and pledged documents.

Subsidy schemes for micro, small and medium manufacturing enterprises established in industrially backward blocks and agro based industries set up in 385 blocks in the State

- 251 blocks in the State have been notified as industrially backward blocks. In addition, all industrial estates promoted by the Government and Government Agencies like SIPCOT, SIDCO, etc., (excluding industrial estates located within the radius of 50

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH PAPER | Economics | Volume : 6 | Issue : 2 [FEBRUARY 2016] ISSN - 2249-555X

Agricultural Transformation in India is the Need of Hour Today

KEYWORDS: Agricultural inputs industry; Agribusiness R&D; India

Dr.P. Senthil
Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India.

Dr.P. Yasodha
Assitant Professor (Ento), Department of Plant Production, Anbil Dharmalingam Agricultural College and Research Institute, Trichy, Tami Nadu, India

ABSTRACT Indian agricultural input industries have gone through a major transformation in the last 40 years. State-owned firms grew during the Green Revolution and then stagnated or declined. Indian companies that were protected from foreign competition are now exporters of agricultural tractors and pesticides. Foreign multinational corporations are rapidly increasing their role in the seed, pesticide, and tractor industries. Entry by large Indian firms and multinationals has increased competition in the input industries. Private agribusiness R&D in India grew from $23 million in 1985 to $250 million in 2009 in 2005 US dollars. This is the same time period as a transformation in the agricultural input industry, rapid growth in demand for agricultural inputs, breakthroughs in information technology and biotechnology, and changes in intellectual property rights. An econometric model was used to test whether the transformation of agricultural input industry was a major factor in the growth of R&D expenditure or not. This article analyzes a unique, firm level sales and R&D data set from the seed, pesticide, tractor and fertilizer industries in 2000-2009. The estimated model indicates that agribusiness firms' R&D expenditures from 2000 to 2009 were positively related to variables associated with industry transformation such as firm size, ownership by multinationals, and declining industry concentration. The model also indicates that strengthening patent policy as well as growth in the size of research-intensive industries like the seed industry contributed to the growth of agribusiness R&D in India.

Introduction

Agricultural sector in India has moved from a traditional agriculture in the 1950s to the modern technologically dynamic high capital intensive agriculture, in which along with food and non-food crops, horticulture and other allied activities have also expanded.

A study of the economic framework within which traditionally low productivity agriculture is transformed into high productivity modern agriculture is important in policy formulation and planning for growth. Productivity here refers to productivity of agricultural land, labour and capital resources; and this involves the larger use of scarce resources like capital, foreign exchange and expert personnel. An absolute criterion cannot be laid down about the content and chronological order of such compositions, since agriculture varies vastly from area to area in terms of physical conditions (i.e. soil moisture, cropping pattern, responses, availability of labour, etc.), cultural factors (education, receptivity to innovations, consumption pattern, etc.), economic factors (prices of input and outputs) and institutional factors (nature of research, extension, marketing supply and other institutions).

Historically, agriculture has played a key role in kick-starting economic growth and reducing poverty and hunger in many developing countries. Moreover, most of the countries that have failed to launch an agricultural revolution remain trapped in poverty, hunger, and economic stagnation. But the conventional conclusion that developing countries should continue to invest in their agricultural development, and particularly in food staples and small farms, is being challenged. In an era of globalization, trade liberalization, changing market structures and demand, and ample world food supplies, a new breed of agricultural skeptics argue that poor countries should now downplay the importance of food staples and small farms and focus instead on commercial farms, higher-value agriculture, and rural income diversification through migration and nonagricultural development (e.g. Maxwell et al., 2001; Ellis and Harris, 2004). Some even advocate that poor countries take advantage of the global glut in food staples to leap frog agricultural development altogether. Yet others note that rapid growth in urban–rural linkages and rural income diversification are making agriculture largely irrelevant for the rural poor. These arguments have merit, but they can also trigger simplistic and generalized conclusions that overlook the diverse needs and opportunities facing developing countries today. Not only are there still many viable opportunities for small farms, but the kinds of state withdrawal from agriculture being promoted by some could lead to a massive and premature exodus of small farms that could overwhelm the capacity of many developing countries to cope.

Nevertheless, in the context of Indian agriculture, three distinct phases of growth can be distinguished as follows.

Phase I: Traditional Agriculture

This is a technologically stagnant phase in which a larger farm production becomes generally possible only through increased application of all three traditional inputs, viz. land, labour and capital. The rate of increase of output is normally smaller than the rate of increase in inputs revealing diminishing productivity of inputs, even at a low yield.

Even if some elements of dynamic agriculture like application of fertiliser, improved seeds and land reform are introduced, the increase in productivity is smaller.

Further, given their resources and knowledge, the traditional farmers cannot become any more efficient as both these factors strongly limit their participating actively in contributing to higher production. Till mid-1960s, the Indian agriculture was typically embodied within the frame-

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Research Paper

Volume - 5 | Issue - 9 | September 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Economics

KEYWORDS : Rice Intensification - Agricultural Yield – Adoption - More Productives.

Impact of System of Rice Intensification (SRI) in Increasing Agricultural Yield in India an Analytical Study

Dr.P.Yasodha — Assistant Professor, ENTO, Department of Plant Protection,Anbil Dharmalingam Agricultural College & Research Institute, Navalur Kuttapattu, Tiruchirappalli, Tamilnadu

Dr.P.Senthil — Assistant Professor in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu

ABSTRACT

The System of Rice Intensification (SRI) is being promoted worldwide, but relatively little is yet known about its impacts at farm level. This article reviews available evidence on the impact of SRI practices in terms of yield and productivity. Adoption of SRI practices necessarily changes the mix and allocation of inputs, in particular of water, seeds, fertiliser and labour. However, SRI impact studies have generally failed to distinguish between technological change – a more productive use of inputs, evidenced by a change in total factor productivity – increases in input use, or selection effects and their respective effects on yields. The studies reviewed point not only to modest increases in rice yields associated with SRI adoption, but also to concurrent increases in labour and fertiliser use. Often SRI is selectively practised on more fertile plots. As a result, no firm evidence on changes in total factor productivity can be discerned, while partial productivities of land and labour show mixed results. Though yields tend to be higher under SRI management, risk also seems to increase, which initially favours adoption by better-endowed farmers and on better soils. Evidence on SRI impact is further complicated by the large diversity of SRI practices associated with different biophysical, socio-economic and institutional circumstances. We conclude by identifying knowledge gaps surrounding the SRI phenomenon, encompassing agro-technical aspects, socio-economic issues and (dis)adoption behaviour.

INTRODUCTION

The system of rice intensification (SRI) has generated considerable debate globally, particularly with regard to its potential to raise rice yields. Proponents of SRI have reported that the average rice yield with SRI is double the current average yield and can be increased to the level of three to four times. Opponents say the reported high yields are due to measurement error and that usual information expected in support of these fantastic yields is missing. The number of SRI adopters has increased in India in recent years. We evaluate the impact of adoption of SRI practices on rice yields, the economics of paddy cultivation and labour inputs based on field research conducted in Purulia, West Bengal, India. Paddy yields with SRI were higher than those under conventional paddy cultivation by 32% and net returns were higher by 67%. Labour input was reduced by 8%. SRI adoption enabled farmers consistently to enhance paddy yields, increase returns and save labour; and enhance productivity with respect to the key inputs in terms of paddy output per unit of seed, fertilizer and labour-day. SRI promises to be a significant alternative for not only raising paddy yields, but also for managing paddy based farming in resource-starved regions.

To evaluate the performance of new rice establishment methods viz., system of rice intensification (SRI) and integrated crop management (ICM), a field study was conducted during 2008–11 in South Garo Hills, Meghalaya foot hills of Eastern Himalayas, India. Field demonstrations were undertaken during wet seasons of 2008–11 and socio-economic information in the context of farmer's realities were obtained during 2010–11 using a well structured questionnaire administered to 134 farmers. The results indicated that the average higher productivity of rice under SRI and ICM demonstration was 209.9 and 185.4 %, respectively, over conventional rice culture (CRC). The SRI and ICM methods of rice cultivation could save seeds (97.56 and 60.98 %), saving water (78.05 and 63.66 %), reduce cost (70.33 %), higher yield etc. compared to CRC. The main reasons for non-adoption of SRI/ICM was related to involvement of more efforts, faith towards traditional practices, ignorance and lack of knowledge on scientific water management. The net-return of $816.69, $706.63 and $51.48/ha was realized under SRI, ICM and CRC, respectively. The co-efficient of multiple determinations (R 2) of the production function was 0.695 in SRI, 0.714 in ICM and 0.734 in CRC which indicated that about 69.5, 71.4 and 73.4 % of the variation in rice productivity under SRI, ICM and CRC, respectively were explained by the independent variable and remaining 30.5, 28.6 and 26.6 %., respectively in SRI, ICM and CRC were as a result of non-inclusion of some explanatory variables as well as other factors outside the farmers control.

The System of Rice Intensification, known as SRI, can reduce water requirements, increase land productivity, and promote less reliance on artificial fertilizers, pesticides, herbicides, and other agrochemicals, all while buffering against the effects of climate change and reducing greenhouse gases (GHG).

In a recent interview with Food Tank, Professor Norman Uphoff at Cornell, who has been studying the impacts of SRI management for more than 15 years, describes SRI as not a fixed technology, but, instead, as a set of principles and ideas. Ideas that translate into a combination of agro economic practices, which might differ depending on agro-ecological and cropping system conditions, but that can have widespread benefits. Application of SRI practices can raise household incomes, enhance soil fertility, and protect crops against climatic, pest, and disease stresses.

For irrigated rice production, for which SRI was first developed, farmers transplant young, single seedlings, spacing them widely in a grid pattern, keeping soils moist and fertile, but not flooded, enhancing them with compost and other sources of organic nutrients, doing regular and early weeding that aerates the soil, and incorporating weeds into the soil to decompose.

The broader application of SRI ideas and methods is referred to as the System of Crop Intensification (SCI). SCI practices have already been developed for wheat, finger millet, tef, sugarcane, mustard, and sorghum. A World Bank publication reports that at least 100,000 farmers in Bihar state of India are using SRI methods for rice and also

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Research Paper

Volume - 5 | Issue - 9 | September 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Economics

KEYWORDS : Migration – Immigration – Outmigration – Labour Issues – Rural urban divid...

Migration and its Impact in India Some Analytical Issues

Dr.P.Senthil — Assistant Professor in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu

S.MANOHARAN — M.Phil Part time Research Scholar in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu

ABSTRACT

This paper deals with internal and international migration, both of which are large-scale with impacts on economic growth and poverty reduction in many regions of the country. In some parts of India, three out of four households include a migrant. However despite the large scale of migration in absolute numbers of people involved and India's long history of population and labour mobility, labour migration has rarely been reliably studied. Labour migration is complex. Streams differ in duration, origin, destination and migrant characteristics. Economic and social impacts on migrants and their families are variable. Migration often involves longer working hours, poor living and working conditions, social isolation and poor access to basic amenities. At destination, migrant labour affects markets, lowering the cost of labour. Migration also affects the labour market at the place of origin. Migrant earnings affect income, expenditure patterns and investment and changes relations at household and community levels. While there seems to be some positive impact on incomes and investment, the major function of migration is to act as a "safety valve" in poor areas. The impact on asset and income inequality is more mixed.

INTRODUCTION

In some regions of India, three out of four households include a migrant. The effects of migration on individuals, households and regions add up to a significant impact on the national economy and society. Despite the numbers, not much is written on migration within or from India and its considerable costs and returns remain outside of the public policy realm. This paper reviews key issues relating to internal and external labour migration in India. It analyses the patterns, trends and nature of labour migration, reviews existing government and non-governmental policies and programmes, and briefly examines key policy issues and options.

This paper relies mainly on existing data, but also draws on some new analysis of secondary data. The study benefited from insights gained at a stakeholder workshop involving staff from grassroots programmes of both governmental and non-governmental agencies. Key policy makers were also interviewed in order both to gain an understanding of current government concerns and to validate our findings.

MIGRATION IN INDUSTRIALISED COUNTRIES

Migration to industrialised countries grew steadily between 1950 and 2000. Nearly 1.25 million Indians immigrated to the US, Canada, UK and Australia during this period. Average annual flows to these destinations increased nearly five-fold between the 1950s and the 1990s.

Migration to the Middle East increased rapidly between the late1970s and early 1980s. In the mid-to late 1980s, however, the number of Indian workers migrating to the Middle East fell sharply. Labour migration increased substantially again during the 1990s. Today, some 3 million Indian migrants live in Gulf countries.

Most migrants come from Kerala, Tamil Nadu, Andhra Pradesh and Punjab. The current number of Indian migrants overseas accounts for less than 1% of the total workforce in India, so has little direct impact on the national labour market. However, the effects of migration are significant in major sending regions. In Kerala, for example, emigration has recently led to a considerable reduction in unemployment.

Remittances are the main benefit of external migration, providing scarce foreign exchange and scope for higher levels of savings and investments. Remittances over the past 30 years have financed much of India's balance of trade deficit and have thus reduced the current account deficit.

Four major categories of interventions can be envisaged, which will differ for internal and external migration. These categories relate to:

Addressing underdevelopment and improving the synergy between migration and

development;

Improving labour market outcomes;

Ensuring basic entitlements to migrant workers; and

Improving the social and political environment for migration.

It is useful to distinguish between 'permanent', 'semi-permanent' and 'temporary' migrants, based on how long they are away from their place of origin, the links they maintain, and the likelihood that they will return home. Temporary migrants are unlikely to stay away from their places of origin for more than a few months in a year. Since the central concern of this paper is the links between migration and poverty, we have focused on migration streams which involve poorer people in the section on internal migration.

Internal

The Ministry of Labour and the Departments of Labour, at state levels, are responsible for formulating and implementing measures to protect migrant workers. Certain existing labour laws aim to improve the conditions of migrant workers and prevent their exploitation. The important ones are: the Inter State Migrant Workmen (Regulation and Conditions of Service) Act, 1979; the Minimum Wages Act, 1948; the Contract Labour (Regulation and Abolition) Act, 1970; the Equal Remuneration Act, 1976; and the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. The enforcement of these laws is the responsibility of both the central and state governments. At the central level, the key agency is the office of the Chief Labour Commissioner and its field offices. However, the Directorate General of Labour Welfare

3.3.2. Number of research papers per teacher in the Journals notified on UGC

volume : 4 | Issue : 6 | June2015 ISSN - 2250-1991

Research Paper Economics

Urbanisation and its Impact on the Developing Economies

DR.P.SENTHIL | Assistant Professor of Economics PG & Research Department of Economics Urumu Dhanalakshmi College, Tiruchirappalli

KEYWORDS | Urbanization and Industrialization- Heavy Cost-Urban centers

INTRODUCTION

Urbanization and growth go together: no country has ever reached middle income status without a significant population shift into cities. Urbanization is necessary to sustain (though not necessarily drive) growth in developing countries and it yields other benefits as well. But it is not painless or always welcomed by policymakers or the general public. Managing urbanization is an important part of nurturing growth; neglecting cities even in countries in which the level of urbanization is low can impose heavy costs.

In terms of development and growth theory, urbanization occupies a puzzling position. On the one hand, it is recognized as fundamental to the multidimensional structural transformation that low-income rural societies undergo to modernize and to join the ranks of middle- and high-income countries. Some models, such as Lucas's (2004, 2007), explicitly consider how urbanization affects the growth process (primarily through the enhanced fl ow of ideas and knowledge attributable to agglomeration in cities. In a more historical treatment, Landes (1969, cited in Williamson 1987, p. 6) situates urbanization as an essential ingredient in modernization:

Industrialization is at the heart of a larger, more complex process often designated as modernization. Modernization comprises such developments as urbanization; the so-called demographic transition; the establishment of an effective, fairly centralized bureaucratic government; the creation of an educational system capable of training and socializing the children of a society . . . ; and of course, the acquisition of the ability and means to use an up-to-date technology. On the other hand, urbanization is a relatively little-studied area of development economics and policy, as Burgess and Venables (2004, p. 4)

Spatial concentration is most dramatically demonstrated by the role of urbanization, and of mega-cities, in development despite the massive diseconomies associated with developing country mega-cities, there are even more powerful economies of scale making it worthwhile for fi rms to locate in these cities. Urbanization is one of the clearest features of the development of manufacturing and service activity in developing countries, yet discussion of urbanization is strangely absent from economic analyses of growth and development. This volume includes six chapters based on state of the art papers written on topics related to urbanization and growth for the Commission on Growth and Development. To provide context to this rich collection, this chapter begins by examining some basic facts about urbanization and growth, some of them based on the historical experience of today's highincome countries. It then reviews some of the debates that have infl uenced thinking about the role of urbanization in development. It concludes with a discussion of the institutional, political, and policy challenges that developing countries face as they work through the structural change that urbanization precipitates.

Urbanization and Growth: The Historical Record

Widespread urbanization is a recent phenomenon. In 1900 just 15 percent of the world's population lived in cities. The 20th century transformed this picture, as the pace of urban population growth accelerated very rapidly in about 1950. Sixty years later, it is estimated that half of the world's people lives in cities. Despite this rapid change, urbanization is not out of control: in terms of population growth rates, the "worst" is over. Urban population growth rates peaked at 3.7 percent a year in 1950–75 and slowed notably thereafter (National Research Council 2003). Nevertheless, given the growing base of people living in cities, annual population increments in absolute numbers are very large and to many, alarming. UN projections predict that urban populations in developing countries will be growing by more than 65 million people a year between 2000 and 2030 (UN 2006).

Urbanization has long been viewed with ambivalence. In 1800 Thomas Jefferson wrote to Benjamin Rush: "I view great cities as pestilential to the morals, the health and the liberties of man. True, they nourish some of the elegant arts, but the useful ones can thrive elsewhere" (Peterson 1984). Twenty years later Percy Bysshe Shelley wrote, "Hell is a city much like London." More recently, Paul Bairoch (1988), the great chronicler of urbanization throughout history, and Bert Hoselitz (1955), the editor of Economic Development and Cultural Change, wrote of "parasitic cities" and their ill effects in developing countries. This perspective has often been shared by the popular press. A 2003 Newsweek cover story suggested that urbanization in Asia was exploding and potentially a curse. A 2007 UN publication on population reveals deep skepticism about urbanization among policymakers in developing countries: 88 percent of survey respondents from less developed countries reported that the spatial distribution of their population was unsatisfactory. This number declined from 95 percent in 1976, although over the same period the number of countries with policies actively seeking to reduce migration to cities grew, from about 44 percent to 74 percent. The most intense concerns and most activist policies are in the least developed countries.

Arthur Lewis (1977, p. 32) expressed concerns about the costs of urbanization but saw it as unavoidable. "Urbanization would not be inevitable if we could spread industry around the countryside instead of concentrating it in towns, but this is easier said than done One can work hard at establishing rural industries, but except in police states, this is bound to be limited."

Lewis's sense of inevitability is borne out by experience. very few countries have reached income levels of $10,000 per capita before reaching about 60 percent urbanization (fi gure 1.1). This relation has changed little since 1960 (see annex 2). This simple bivariate regression explains at least 55 percent of variability across countries, suggesting that urbanization is a very strong indicator of all aspects of productivity growth over the long run, although clearly this simple statistical relation

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ORIGINAL RESEARCH PAPER | Economics | Volume : 6 | Issue : 9 | September 2016 | ISSN : 2249-555X | IF : 3.919 | IC Value : 74.50

Rural Development Through Poverty Eradication Programmes in India Some Evidences

KEYWORDS: Rural Development – Poverty Eradication – Syndrome.

Dr.P.Senthil
Assistant Professor in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu

C.Sivasubramanian
M.Phil Part time Research Scholar in Economics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu

ABSTRACT *Alleviation of rural poverty has been one of the primary objectives of planned development in India. Ever since the inception of planning, the policies and the programmes have been designed and redesigned with this aim. The problem of rural poverty was brought into a sharper focus during the Sixth Plan. The Seventh Plan too emphasised growth with social justice. It was realised that a sustainable strategy of poverty alleviation has to be based on increasing the productive employment opportunities in the process of growth itself. However, to the extent the process of growth bypasses some sections of the population, it is necessary to formulate specific poverty alleviation programmes for generation of a certain minimum level of income for the rural poor.*

Rural development implies both the economic betterment of people as well as greater social transformation. Increased participation of people in the rural development process, decentralisation of planning, better enforcement of land reforms and greater access to credit and inputs go a long way in providing the rural people with better prospects for economic development. Improvements in health, education, drinking water, energy supply, sanitation and housing coupled with attitudinal changes also facilitate their social development.

INTRODUCTION

Rural poverty is inextricably linked with low rural productivity and unemployment, including underemployment. Hence it is imperative to improve productivity and increase employment in rural areas. Moreover, more employment needs to be generated at higher levels of productivity in order to generate higher output. Employment at miserably low levels of productivity and incomes is already a problem of far greater magnitude than unemployment as such. It is estimated that in 1987-88 the rate of unemployment was only 3 per cent and inclusive of the underemployed, it was around 5 per cent. As per the currently used methodology in the Planning Commission, poverty for the same year was estimated to be 30 per cent. This demonstrates that even though a large proportion of the rural population was "working" it was difficult for them to eke out a living even at subsistence levels from it. It is true that there has been a considerable decline in the incidence of rural poverty over time. In terms of absolute numbers of poor, the decline has been much less. While this can be attributed to the demographic factor, the fact remains that after 40 years of planned development about 200 million are still poor in rural India. In 1987-88, the rural poverty line in terms of per capita monthly expenditure was Rs. 131.80. The average incidence of rural poverty conceals wide inter-state differences which suggests that greater attention needs to be paid to the regions which have a greater concentration of the rural poor. In recent years, several issues have been raised about the methodology of poverty estimation, both by professionals and State Governments. An Expert Group appointed by the Planning Commission is looking into these issues relating to the definition and measurement of poverty.

The decline in rural poverty is attributable both to the growth factor and to the special employment programmes launched by the Government in order to generate more incomes in the rural areas. Hence, in its more limited interpretation, rural development has been confined to a direct attack on poverty through special employment programmes, area development programmes and land reforms. These will be reviewed in this chapter. In addition, the role of the Panchayati Raj Institutions and voluntary organisations in the implementation of these programmes has also to be kept in view. A review of the on-going programmes is presented in the first part of the Chapter. In the second part, the approach and strategy for the Eighth Plan are spelt out.

Review of the Existing Programmes

Integrated Rural Development Programme (IRDP)

Under the IRDP, those living below the defined poverty line in rural areas are identified and given assistance for acquisition of product live assets or appropriate skills for self-employment, which in turn, should generate enough income to enable the beneficiaries to rise above the poverty line.

This scheme was launched in the Sixth Plan. Its assessment at the end of the Sixth Plan period revealed several shortcomings. Keeping this in view and the feed-back received from the State Governments, suitable changes were introduced in the guidelines for the IRDP in the Seventh Plan. The poverty line was based at Rs.6400, but those eligible for assistance under the IRDP had to have an average annual income of Rs.4800 or less. It was assumed that those households with income levels between Rs.4800 and Rs.6400 would be able to rise above the poverty line in the process of growth itself. It was targetted that 20 million families would be assisted under IRDP during the Seventh Plan of which 10 million were new households and 10 million old beneficiaries who had been unable to cross the poverty line and required a second dose.

During the Seventh Plan, the subsidy expenditure on IRDP was Rs.3316 crores which was in excess of the target of Rs.3000 crores. The total investment including the institutional credit amounted to Rs.8688 crores. In quantitative terms, the physical achievement of about 18 million households fell short of the original target of 20 million households but exceeded the cumulative target which was only

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume-4, Issue-6, June-2015 • ISSN No 2277 - 8160

Research Paper | Economics

Urbanization Some Issues and Challenges

DR.P.SENTHIL

Assistant Professor of Economics PG & Research Department of Economics
Urumu Dhanalakshmi College, Tiruchirappalli

KEYWORDS : Urban Growth-urban Ecology-environment-Population growth

Introduction

Urbanisation in India has become an important and irreversible process, and an important determinant of national economic growth and poverty reduction. The process of urbanisation is characterised by a most dramatic increase in the number of large cities, although India may be said to be in the midst of transition from a predominantly rural to a quasi urban society.

In 2001, Indias urban population, living in approximately 5,200 urban agglomerations, was about 285 million. It has increased to almost 380 million in 2011. Projections are that by 2030, out of a total population of 1.4 billion, over 600 million people may be living in urban areas. The process of urbanisation is a natural process associated with growth. There is no doubt that the condition of the poor in rural India must continue to get major attention but the urban sector development should not be viewed as negating such attention or weakening it in any way. On the contrary, we must acknowledge that there is a synergistic relationship between rural prosperity and the continuum of urban development from small towns through larger cities to metros. A holistic approach to spatial development is needed if the country wishes to achieve more inclusive growth.

Urban Growth

An interesting aspect of the urbanisation trend revealed by the Census is that the number of towns in India increased from 5,161 in 2001 to as many as 7,935 in 2011. It points out that almost all of this increase reflects the growth of „census" towns (which increased by 2,532) rather than „statutory" towns (which increased by only 242). „Statutory" towns are towns with municipalities or corporations whereas „census" towns are agglomerations that grow in rural and peri-urban areas, with densification of populations, that do not have an urban governance structure or requisite urban infrastructure of sanitation, roads, etc. As more Indians will inevitably live within urbanized conglomerations, with densification of villages, sprouting of peri-urban centres around large towns, and also migration of people into towns, the quality of their lives and livelihoods will be affected by the infrastructure of India"s urban conglomerations. The infrastructure of India"s present towns is very poor. Sewage, water, sanitation, roads and housing are woefully inadequate for their inhabitants. The worst affected are the poor in the towns. As more urban conglomerations form and grow without adequate infrastructure, the problems will only become worse. Therefore, India"s urban agenda must get much more attention.

Level of Urbanisation

Among all the States and Union Territories, the National Capital Territory of Delhi is most urbanized with 93 per cent urban population followed by Union Territory of Chandigarh (89.8 per cent) and Pondicherry (66.6 per cent).

Among the major States, Tamil Nadu is the most urbanized state with 43.9 per cent of the population living in urban areas followed by Maharashtra (42.4 per cent) and Gujarat (37.4 per cent). The proportion of urban population is the lowest in Himachal Pradesh with 9.8 per cent followed by Bihar with 10.5 per cent, Assam (12.7 per cent) and Orissa (14.9 per cent).

In terms of absolute number of persons living in urban areas, Maharashtra leads with 41 million persons which is 14 per cent of the total population of the country. Uttar Pradesh accounts for about 35 million followed by Tamil Nadu 27 million3.

Causes of Urbanisation

Urbanization occurs naturally from individual and corporate efforts to reduce time and expense in commuting and transportation while improving opportunities for jobs, education, housing, and transportation. Living in cities permits individuals and families to take advantage of the opportunities of proximity, diversity, and marketplace competition.

- People move into cities to seek economic opportunities.
- A major contributing factor is known as "rural flight".
- In rural areas, often on small family farms, it is difficult to improve one"s standard of living beyond basic sustenance.
- Farm living is dependent on unpredictable environmental conditions, and in time of drought, flood or pestilence, survival become extremely problematic. In modern times, industrialization of agriculture has negatively affected the economy of small and middle-sized farms and strongly reduced the size of the rural labour market. Cities, in contrast, are known to be places where money, services and wealth are centralized. Cities are where fortunes are made and where social mobility is possible.

Businesses, which generate jobs and capital, are usually located in urban areas. Whether the source is trade or tourism, it is also through the cities that foreign money flows into a country. It is easy to see why someone living on a farm might wish to take their chance moving to the city and trying to make enough money to send back home to their struggling family. There are better basic services as well as other specialist services that aren"t found in rural areas. There are more job opportunities and a greater variety of jobs. Health is another major factor. People, especially the elderly are often forced to move to cities where there are doctors and hospitals that can cater for their health needs.

Economic Effects

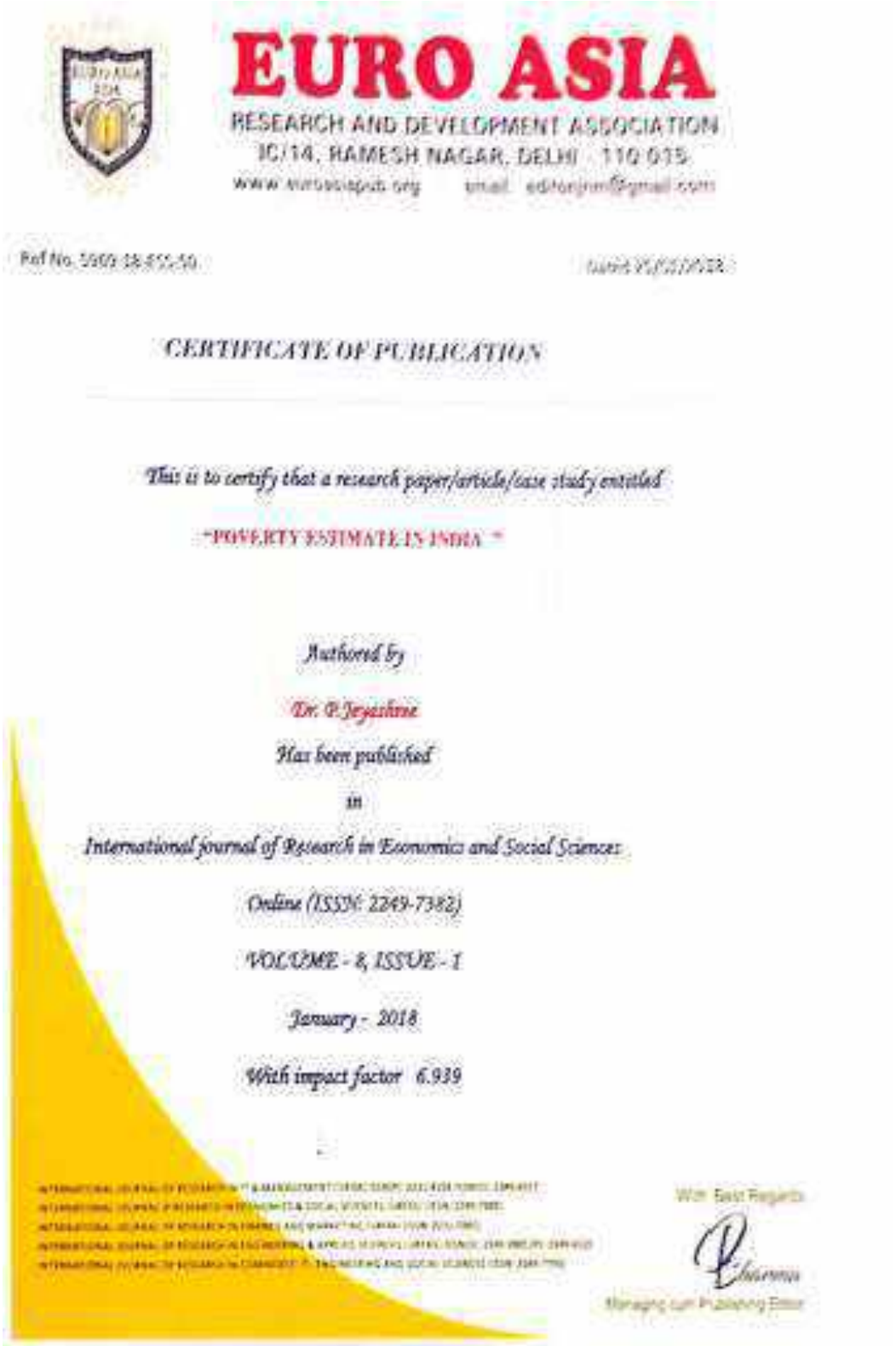
In recent years, Urbanization of rural areas has increased. As agriculture, more traditional local services, and small-scale industry give way to modern industry the urban and related commerce with the city drawing on the resources of an ever-widening area for its own sustenance and goods to be traded or processed into manufactures. Research in urban ecology finds that larger cities provide more specialised goods and services to the local market and surrounding areas, function as a transportation and wholesale hub for smaller places, and accumulate more capital, as well as often concentrating administrative functions for the area in which they lie.

This relation among places of different sizes is called the urban hierarchy. As cities develop, effects can include a dramatic increase in costs, often pricing the local working class out of the market, including such functionaries as employees of the local municipalities. For example, Eric Hobsbawm"s book The age of the revolution: 1789 – 1848 stated "Urban development in our period was a gigantic process of class segregation, which pushed the new labouring poor into great morasses of misery outside the centres of the government and business and the newly specialised residential areas of the bourgeoisie.

Environmental Effects

The urban heat has become a growing concern and is increasing over the years. The urban heat island is formed when industrial and urban areas are developed and heat becomes more abundant. In rural areas, a large part of the incoming solar energy is used to evaporate water from vegetation and soil. In cities, where less vegetation and

3.3.2. Number of research papers per teacher in the Journals notified on UGC



EURO ASIA

RESEARCH AND DEVELOPMENT ASSOCIATION

IC/14, RAMESH NAGAR, DELHI - 110 015

www.eurosiapub.org email: editorjmr@gmail.com

Ref No. 1560/18-EAS-50 Date 25/01/2018

CERTIFICATE OF PUBLICATION

This is to certify that a research paper/article/case study entitled

"POVERTY ESTIMATE IN INDIA "

Authored by

Dr. P. Jeyashree

Has been published

in

International Journal of Research in Economics and Social Sciences

Online (ISSN: 2249-7382)

VOLUME - 8, ISSUE - 1

January - 2018

With impact factor 6.939

With Best Regards

Managing cum Publishing Editor

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Economics and Social Sciences (IJRESS)
Available online at: http://euroasiapub.org
Vol. 8 Issue 1, January- 2018
ISSN(o): 2249-7382 | Impact Factor(SJIF): 6.939 |

POVERTY ESTIMATE IN INDIA

Dr. P.Jeyashree ,
Assistant professor, PG & Research department of Economics,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli – 620 019
Tamil Nadu & India.

Abstract

This paper examines recent contributions to the analysis of poverty. Poverty was one of the most serious socio-economic problems facing our country. Though lack of adequate financial resources was primarily an economic problem, it had a significant role in the social life of the poverty stricken individuals. Poverty was relatively more prevalent in rural villages as compared to the urban areas. The problem of rural unemployment had worsened after the initiation of the economic reforms in India in the early nineties. As a result of this, the gap between the rich and the poor, in the urban as well as in the rural areas had widened which had worsened the living conditions of the poor and the vulnerable sections of the people in the rural areas. Poverty reduction requires a poor strategy of growth which implies creation of more and more productive employment opportunities in those sectors which help the poor to raise their level of income.

Key Words:- Poverty and socio-economic problems,Planning Commission Estimation in India – C Rangarajan and Tendulkar Committee, **Reduction in Poverty.**

The International Journal of Analytical and Experimental Modal analysis

An UGC-CARE Approved Group - A Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0886-9367 / web : http://ijaema.com / e-mail: submitijaema@gmail.com

Certificate of Publication

This is to certify that the paper entitled

"A CONCEPTUAL STUDY ON THE FUNCTIONING OF STOCK MARKETS IN INDIA"

Authored by :

Dr. P. JEYASHRRE, Assistant Professor

From

Urumu Dhanalakshmi College, Kattur, Trichy

Has been published in

IJAEMA JOURNAL, VOLUME XI, ISSUE IX, SEPTEMBER - 2019

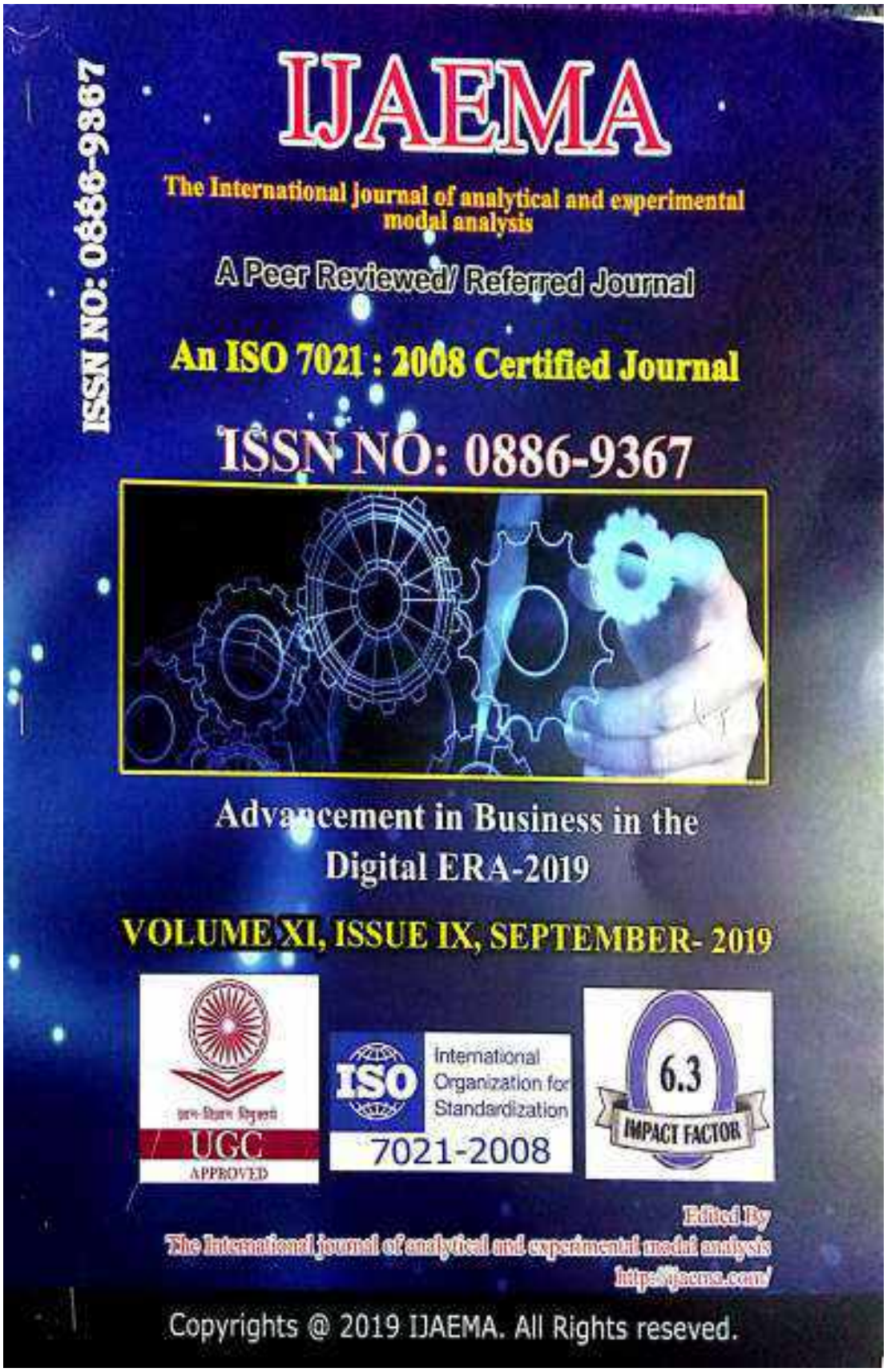
Michal A. Olszewski Editor-In-Chief
IJAEMA JOURNAL

6.3 IMPACT FACTOR

ISO 7021-2008

http://ijaema.com/

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

A CONCEPTUAL STUDY ON THE FUNCTIONING OF STOCK MARKETS IN INDIA

Dr. P. JEYASHRRE
Assistant Professor, PG & Research Department of Economics,
Urumu Dhanalakshmi College, Kattur, Trichy

Abstract

Stock markets are attractive entities and not for the minimum because they help investors make money. They are interesting establishments in themselves and those in India have a rich history. We require assumed a brief history of Indian stock markets below. Trading has prominent in the Indian industry meanwhile way before any of us were born. The first insufficient exchanges were regional exchanges like Calcutta stock exchange, Ahmedabad stock exchange, Bombay stock exchange and proceeding more recently 1960 on has trading stated to become more mainstream with added and more people starting to trade.

Keywords: Stock market, Stock exchanges, Investors, Trading mechanism.

Introduction:

In 1956, the Government of India acknowledged the Bombay Stock Exchange as the first stock exchange in the country below the Securities Contracts (Regulation) Act. The most key period in the history of the BSE took place after 1992. The second planned failure at BSE move toward in the following two years.

In the last 20 years or consequently trading has exponentially grownup due to the modern facilities of demat accounts. Before people had to buy paper shares and any transaction used to take days if not weeks to be over. Currently it takes less than 1 second for you to buy or sell a share. Listed companies in the Indian Stock Market have affected an unsurpassed high of around 6000 around 2000 but it floats around 5.1k right now. It is still the peak in the world in terms of number of listed beings.

The Securities Contracts (Regulation) Act of 1956 outlines a stock exchange as "everyone of individuals, whether combined or not, constituted earlier corporatization and demutualization" or "a body corporate combined under the Companies Act, 1956 whether under a scheme of corporatization and demutualization or otherwise," for the purpose of support, changeable or controlling the business of buying, selling or dealing in securities.

National Stock Exchange

In the post-independence era, the Bombay Stock Exchange (BSE) conquered the volume of trading. However, the low level of transparency and unreliable clearing and settlement systems, apart from supplementary macro factors, improved the need of a financial

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IF : 5.156 | IC Value : 85.78

VOLUME-7, ISSUE-4, APRIL-2018 • ISSN No 2277 - 8160

Original Research Paper

Economics

ECONOMIC CONSEQUENCES OF CLIMATIC CHANGE ON THE AVAILABILITY OF WATER AND DISTRIBUTION - SOME EXPOSITIONS

Dr. S. Gnanaprakesh MA., M.Phil., PhD., PGDCA., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu

KEYWORDS : Consequences – Climatic Change – Water Availability – Usage of Water – Global Scenario

INTRODUCTION

On a daily basis, not much attention is given to everyday household appliances and products, including clothes, food or water. From the raw materials to production, manufacturing and transport, these items journeyed around the world to you. It is not inconsequential. The things you own have been affected by politics, economics, geopolitical rivalries, and the environment and vice versa. The consequences of heavy industry in developing states are a short-term dream, and a long-term nightmare.

Climate change heavily affects water supplies and does so in multiple ways. Warm temperatures can cause water to evaporate faster than it can be replenished, especially in arid and dry regions with little precipitation. This leads to long-term droughts and as in the case of California, rationing of water for local and private use for economic and recreational purposes. Additionally, there is also the problem with the rise of sea levels, which push into coastal fresh-water aquifers, making the water more saline and unusable for human consumption. Lastly, there is the population problem; this ties closely with the economic problem. With an increasing population, there is naturally an increasing demand for water consumption, power generation, and agricultural sectors.

To exacerbate the problem further, apart from the basic problem of climate change, there is an extremely poor governance issue in terms of water allocation and sanitation systems. The UN Millennium Development Goals (MDGs) included improving environmental sustainability and to halve the number of people worldwide without access to fresh drinking water. It was then the responsibility of the UN established "Joint Monitoring Program" (JMP) for Water Supply and Sanitation, along with UNICEF and the World Health Organization (WHO), to monitor progress to achieve this MDG.

Water-borne diseases, which have killed millions of people, also have a negative and long-term effect on families, threatening children's health and economic productivity of a society as a whole. These diseases affect family income not only through a decreasing economic productivity of individuals, but also the increased cost of official and unofficial healthcare. Lack of access to water therefore reduces income and economic contributions.

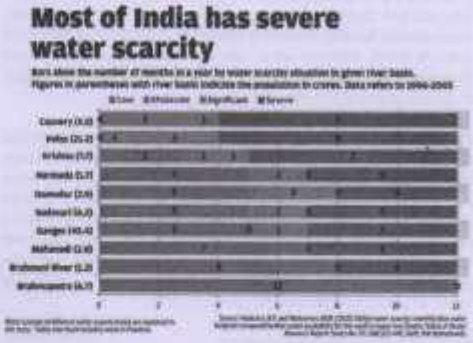
Access to water in this case is not just a climate change issue, but a problem of poor public policy and governance that limits access. Options of importing freshwater or "virtual water" are not sustainable. Examples of this can be seen in 2003 when Turkey signed a 20-year agreement to ship 50 billion liters of water a year to Israel to boost Israeli agriculture. Cyprus imported water from Greece to sustain its growing agricultural needs when it was hit by a drought in 2008. While these actions seem harmless, it is important to be mindful of the fact that when more water is pulled out of the ecosystem than can be replenished, water no longer remains a "renewable resource."

On May 3, 2016, The World Bank releaseda report, stating, ***"Water scarcity, exacerbated by climate change, could cost some regions up to 6 per cent of their GDP, spur migration and spark conflict."*** In North America, water is taken for granted and we seldom concern ourselves with the many aspects of a society and economy that demand on water. Water is the backbone of modern infrastructure from urban planning to agricultural development; water space to allocation must be taken into consideration. While Canada does not currently have a water scarcity crisis, economies we rely on, do.

Water scarcity affects countries that are leading economic powers in production and manufacturing of material goods we consume. Places such as India, China and the Middle East are currently facing severe drought, and the additional challenge to meet their economic quotas and surpass competition. Water scarcity according to the World Bank report suggests a high risk of conflict. As food prices spike, caused by droughts, it could inflame latent conflicts and drive migratory forces. However, according to economistRichard Damania; ***"When governments respond to water shortages by boosting efficiency and allocation even 25 percent of water to more highly-valued uses, losses decline dramatically and for some regions may even vanish. Improved water stewardship pays high economic dividends."***

Water is indeed a renewable resource when used correctly. When governments invest in sustainable projects and local developments as their populations grow, their emissaries will thrive. In order to tackle conflicts before they arise and deal with migration flows, environmental sustainability must be a top priority for governments worldwide.

CHANGE IN WATER AVAILABILITY AND DEMAND



Affirming that the total rainfall or average rainfall has not really changed much, he broached the issue of increased water use. According to him, increased demand-supply gap has led to the perception that rainfall is decreasing.

An area is believed to be water-stressed when annual water supplies drop below 1,700 cubic metres per person per year. "We are already surviving with around 1,700-1,800 cubic metres per year. We are soon going to be in a situation where there will be wars for water. Much of the prosperity in the last two decades is because of groundwater exploitation. As our demand for water has increased drastically over the years, per capita water availability has taken a

3.3.2. Number of research papers per teacher in the Journals notified on UGC

PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-7 | Issue-2 | February-2018 | ISSN - 2250-1991 | IF : 6.761 | IC Value : 86.18

ORIGINAL RESEARCH PAPER

Economics

SOME EXPERIENCES OF HEALTH FOR ALL IN INDIA

KEY WORDS: Health Status – Mortality – Health for all – Mission – Visions – Health Care Practices.

Dr. S. Gnanaprakash MA., M.Phil., PhD., PGDCA., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu.

Dr. J. Jayalakshimi MA., M.Phil., PhD., Assistant Professor in Economics, PG & Research Department of Economics, VHNSN College, Virudhunagar, Tamil Nadu.

INTRODUCTION

Despite these differences the World Health Assembly in 1977 declared that all citizens of the world should attain a level of health that will permit them to lead a socially and economically productive life. This culminated in the international objective of HEALTH FOR ALL by the year 2000 as the social goal of all governments. Health for all means that health is to be brought within the reach of every one in a given community. It implies the removal of obstacles to health–that is to say, the elimination of malnutrition, ignorance, disease, contaminated water supply, unhygienic housing etc. It depends on continued progress in medicine and public health.

Halfdan Mahler, Director General (1973-1983) of the WHO, defined Health For All in 1981, as follows:

Health For All means that health is to be brought within reach of everyone in a given country. And by "health" is meant a personal state of well being, not just the availability of health services – a state of health that enables a person to lead a socially and economically productive life. Health For All implies the removal of the obstacles to health – that is to say, the elimination of malnutrition, ignorance, contaminated drinking water and unhygienic housing – quite as much as it does the solution of purely medical problems such as a lack of doctors, hospital beds, drugs and vaccines.

- Health For All means that health should be regarded as an objective of economic development and not merely as one of the means of attaining it.
- Health For All demands, ultimately, literacy for all. Until this becomes reality it demands at least the beginning of an understanding of what health means for every individual.
- Health For All depends on continued progress in medical care and public health. The health services must be accessible to all through primary health care, in which basic medical help is available in every village, backed up by referral services to more specialised care. Immunisation must similarly achieve universal coverage.
- Health For All is thus a holistic concept calling for efforts in agriculture, industry, education, housing, and communications, just as much as in medicine and public health. Medical care alone cannot bring health to in hovels. Health for such people requires a whole new way of life and fresh opportunities to provide themselves with a higher standard of living.

The adoption of Health For All by government, implies a commitment to promote the advancement of all citizens on a broad front of development and a resolution to encourage the individual citizen to achieve a higher quality of life.

The rate of progress will depend on the political will. The World Health Assembly believes that, given a high degree of determination, Health For All could be attained by the year 2000. That target date is a challenge to all WHO's Member States. The basis of the Health For All strategy is primary health care.

Two decades later, WHO Director General Lee Jong-wook (2003–2006) reaffirmed the concept in the World Health Report 2003:

Health for all became the slogan for a movement. It was not just an ideal but an organizing principle: everybody needs and is entitled to the highest possible standard of health. The principles remain indispensable for a coherent vision of global health. Turning that vision into reality calls for clarity both on the possibilities and on the obstacles that have slowed and in some cases reversed progress towards meeting the health needs of all people. We have a real opportunity now to make progress that will mean longer, healthier lives for millions of people, turn despair into realistic hope, and lay the foundations for improved health for generations to come.

OVERALL HEALTH SITUATION IN INDIA

Let us now turn our attention to the overall health situation in India. We will look at some basic statistics impacting health, review health care delivery systems and critique the achievements as well as the unfulfilled targets of health care delivery.

Population Profile: The work on the next census (2001) has already started. Even without it, it can be said that India is heading towards a population explosion. It is one of the most populous nations in the world–second only to China. Nature has only finite resources and the consequences of an ever expanding population to mankind as a whole are grave. Let us look at some of these demographics or should we say "Demographics".

LARGE POPULATION

High fertility both in terms of birth rate and family size. Declining mortality Illiteracy rate of about 40% Dependency ratio of 0.9, that is, every economically productive member has to support almost one dependent. This table summarizes the most recent demographic information available:

India: Demographic profile

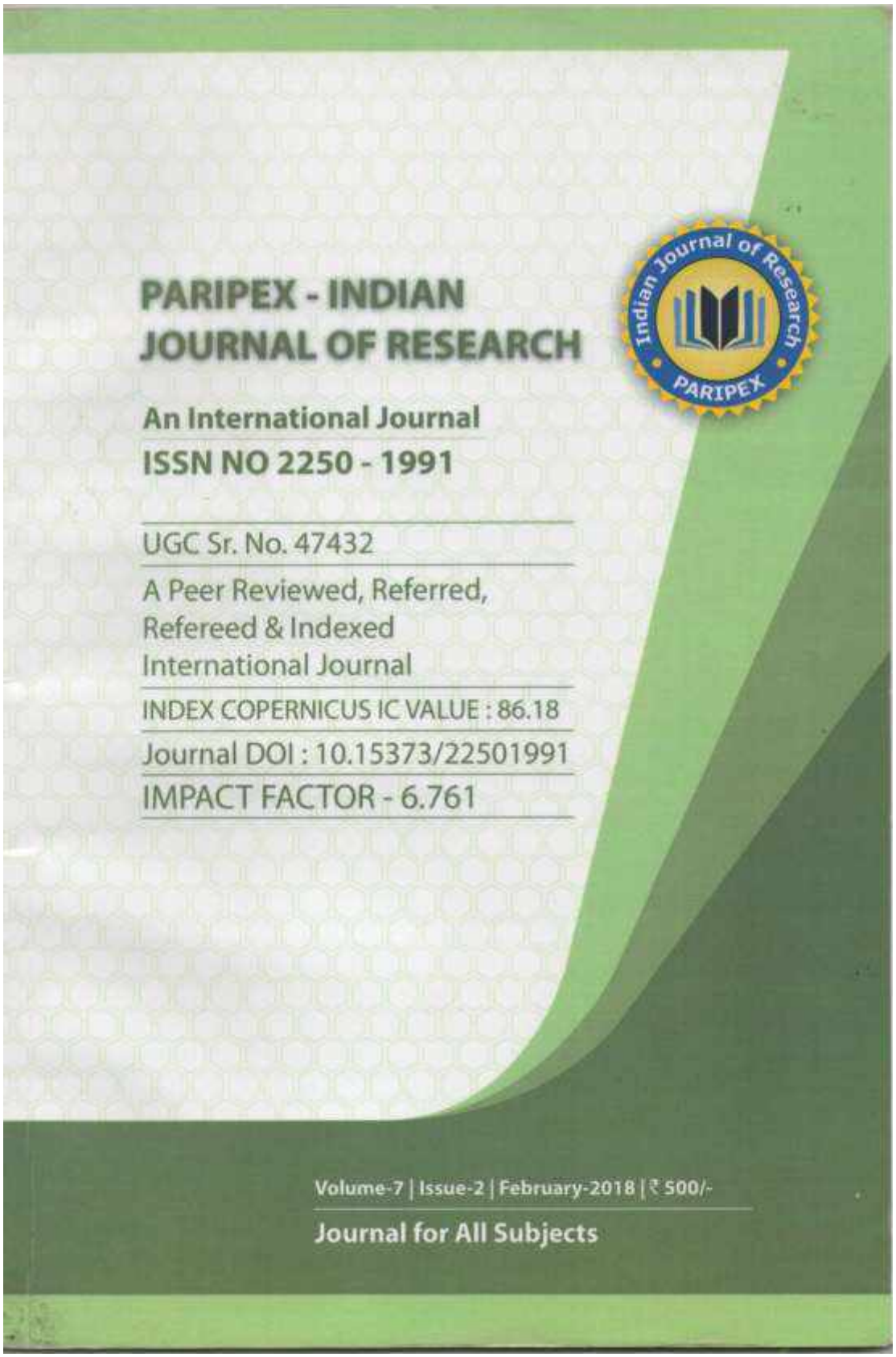
Total Population (estimated1996)	952	Million
Population rural% (1995)	73.2	–
Adult literacy rate % (1995)	52	–
Density of population per sq km (1995)	283	–
Sex ratio female per 1000 male (1991)	929	–
Average family size (1988)	34.8	–
Age at marriage, female (1991)	19	Years
Annual per capita GNP (at current prices 1994–95)	INR 8984	–

When we compare some of the available statistics so that prevalent in the west the following is the observation.

SELECTED HEALTH AND SOCIOECONOMIC INDICATORS

	Other developing Countries	Developed Countries
Life expectancy at birth (years) 1996	66	77
IMR (per 1000 live births)	55	6
Maternal mortality per 100,000 live births 1990	350	13
Doctor population ratio per 10,000 (1993)	8.4	25.2
Nurse population ratio per 10,000	9.6	74.2
GNP per capita (US $)(1994)	1133	24414
Adult Literacy rate	73	99

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-7 | Issue-4 | April-2018 | ISSN - 2250-1991 | IF : 6.761 | IC Value : 86.18

ORIGINAL RESEARCH PAPER

Economics

KEY WORDS: Indian Agriculture, Food Security, Food Production, Distribution, Climatic Change

ECONOMIC IMPACT OF CLIMATIC CHANGE ON AGRICULTURAL PRODUCTION IN INDIA – SOME EMPIRICAL ILLUSTRATIONS

Dr. S. Gnanaprakesh

MA., M.Phil., PhD., PGDCA., Assistant Professor in Economics, PG & Research Department of Economics, Urumu Dhanalakshmi College, Tiruchirappali – 620019. Tamil Nadu

ABSTRACT

Concrete is most widely used man made construction material. Different types of experiments done on concrete every day to improve the properties of concrete. To modify the properties of the concrete different types of cementitious material are used with admixtures. Main advantage of using cementitous material is to lower down the consumption of cement and also it modifies the mechanical properties of concrete. Among all cementitious material Fly ash give best performance in strength, durability and workability aspect of concrete. Use of fiber along with cementitous material in concrete is not new but there is considerably change in types of fibers which are used in concrete. The main advantage to use fibers with cementitious material is that properly distribution fibers in concrete. In this paper combination of different types of polypropylene fibers with fly ash are studied on strength aspect of concrete.

INTRODUCTION

Climate change is any significant long-term change in the expected patterns of average weather of a region (or the whole Earth) over a significant period of time. It is about abnormal variations to the climate, and the effects of these variations on other parts of the earth. These changes may take tens, hundreds or perhaps millions of years. But increased anthropogenic activities such as industrialization, urbanization, deforestation, agriculture, change in land use pattern etc. lead to emission of greenhouse gases due to which the rate of climate change is much faster. Climate change scenarios include higher temperatures, changes in precipitation, and higher atmospheric CO2 concentrations. There are three ways in which the "Greenhouse Effect" may be important for agriculture. First, increased atmospheric CO2 concentrations can have a direct effect on the growth rate of crops. Secondly, CO2-induced changes of climate may alter levels of temperature, rainfall and sunshine that can influence plant and animal productivity. Finally, rises in sea level may lead to loss of farmland by inundation and increasing salinity of groundwater in coastal areas. The major impacts of climate change will be on rain fed or un-irrigated crops, which are cultivated on nearly 60 percent of cropland. A temperature rise by 0.5oC in winter temperature is projected to reduce rain fed wheat yield by 0.45 tonnes per hectare. Possibly there might be some improvement in yields of chickpeas, rabi maize, sorghum and millets and coconut on the west coast and less loss in potatoes, mustard and vegetables in north-western India due to reduced frost damage. Increased droughts and floods are likely to increase production variability.

INDIA'S AGRICULTURE

From ancient times India's agriculture has been dependent on monsoons. Any change in monsoon trends drastically affects agriculture. Even the increasing temperature is affecting Indian agriculture. In the Indo-Gangetic Plain, these pre-monsoon changes will primarily affect the wheat crop (>0.5oC increase in time slice 2010-2039; IPCC 2007). In the states of Jharkhand, Odisha and Chhattisgarh alone, rice production losses during severe droughts (about one year in five) average about 40 percent of total production, with an estimated value of $800 million.

Recent studies done at the Indian Agricultural Research Institute indicate the possibility of a loss of between 4 and 5 million tons in wheat production in the future with every rise of 1oC temperature throughout the growing period. Rice production is slated to decrease by almost a tonne/hectare if the temperature rises by 2 degree celsius. In Rajasthan, a 2 degree rise in temperature was estimated to reduce production of pearl millet by 10 to 15 percent. If maximum and minimum temperatures rise by 3 and 3.5 degrees respectively, then soya bean yields in M.P will decline by 5 percent compared to 1998. Agriculture will be affected in the coastal regions of Gujarat and Maharashtra, as fertile areas are vulnerable to inundation and salinization.

FOOD SECURITY

Food security is both directly and indirectly linked with climate change. Any alteration in the climatic parameters such as temperature and humidity which govern crop growth will have a direct impact on quantity of food produced. Indirect linkage pertains to catastrophic events such as floods and droughts which are projected to multiply as a consequence of climate change leading to huge crop loss and leaving large patches of arable land unfit for cultivation which hence threatens food security. The net impact of food security will depend on the exposure to global environmental change and the capacity to cope with and recover from global environmental changes. On a global level, increasingly unpredictable weather patterns will lead to a fall in agricultural production and higher food prices, leading to food insecurity.

Food insecurity could be an indicator for assessing vulnerability to extreme events and slow-onset changes. This impact of global warming has significant consequences for agricultural production and trade of developing countries as well as an increased risk of hunger. The number of people suffering from chronic hunger has increased from under 800 million in 1996 to over 1 billion recently. United Nations population data and projections show the global population reaching 9.1 billion by 2050, an increase of 32 percent from 2010.

The world's population is expected to grow by 2.2 billion in the next 40 years, and a significant portion of the additional population will be in countries that have difficulties feeding themselves. Preliminary estimates for the period up to 2080 suggest a decline of some 15 to 30 percent of agricultural productivity in the most climate-change-exposed developing country regions – Africa and South Asia. Even the IPCC, scarcely alarmist, says a 0.5 degree rise in winter temperature would reduce wheat yield by 0.45 tons per hectare in India. Rice and wheat have an important share in total food grain production in India. Any change in rice and wheat yields may have a significant impact on food security of the country. And this when Indian agriculture is already in crisis, and in the last twenty years 300,000 farmers have killed themselves.

ADAPTION

In view of drastic environmental changes taking place it is necessary for farmers as well as for the Indian government to adapt to changing situation as soon as possible.

The Indian government should assist farmers in coping with current climatic risks by providing value-added weather services to farmers. Farmers can adapt to climate changes to some degree by shifting planting dates, choosing varieties with different growth duration, or changing crop rotations. An Early warning system should be put in place to monitor changes in pest and disease outbreaks. The overall pest control strategy should be based on integrated pest management because it takes care of multiple

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Certificate of Publication

EPRA International Journal of Economic and Business Review

ISSN (Online) : 2347-9671 ISSN (Print): 2349-0187

Impact Factor: InnoSpace, (SJIF): 5.509 & ISI : 1.259

Is hereby honoring this certificate to

Dr.S.Gnanaprakesh

In Recognition of the publication of Paper entitled

A STUDY ON ACCESSIBILITY OF AMENITIES BEFORE AND AFTER JOINING SHG's

Published under Paper Index EW201607-01-001088

Volume 4 , Issue 8 , August, 2016

Dr. A. Singaraj
Chief Editor

Generated on : 09-Aug-2016 11:34 pm

www.eprawisdom.com

Post Box: 1936, Thindivanam-604 009, Tamil Nadu, India.

e-mail : chiefeditor@eprawisdom.com

GLOBAL JOURNAL FOR RESEARCH ANALYSIS International

ISSN No: 2277- 8160

IMPACT FACTOR: 5.156

Index Copernicus (IC) Value : 85.78

Certificate of Publication

This is to certify that

Mr./Mrs./Ms./Prof./Dr. **S.GNANAPRAKESH**

has contributed a paper as author/ Co-author to

GLOBAL JOURNAL FOR RESEARCH ANALYSIS

A Peer Reviewed, Referred, Refereed & Indexed International Journal

Title "**ECONOMIC CONSEQUENCES OF CLIMATIC CHANGE ON THE AVAILABILITY OF WATER AND DISTRIBUTION - SOME EXPOSITIONS**"

and has got published in volume **07**, *Issue* **04**, **APRIL-2018**

The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

Executive Editor | *Editor in Chief* | *Member, Editorial Board*

227

Certificate of Publication

ISSN No: 2250-1991

Impact Factor: 6.761

Index Copernicus (IC) Value : 86.18

This is to certify that

Mr./Mrs./Ms./Prof./Dr. **S.GNANAPRAKESH**

has contributed a paper as author/ Co-author to

PARIPEX- INDIAN JOURNAL OF RESEARCH

A Peer Reviewed, Referred, Refereed & Indexed International Journal

Title " **ECONOMIC IMPACT OF CLIMATIC CHANGE ON AGRICULTURAL PRODUCTION IN INDIA – SOME EMPIRICAL ILLUSTRATIONS** *"*

and has got published in volume **07**, *Issue* **04**, **APRIL-2018**

The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

217 *Executive Editor* *Editor in Chief* *Member, Editorial Board*

Certificate of Publication

Indian Journal of Research
PARIPEX

ISSN No: 2250-1991

Impact Factor: 6.761

Index Copernicus (IC) Value : 86.18

This is to certify that

Mr./Mrs./Ms./Prof./Dr. **S.GNANAPRAKASH**

has contributed a paper as author/ Co-author to

PARIPEX- INDIAN JOURNAL OF RESEARCH

A Peer Reviewed, Referred, Refereed & Indexed International Journal

Title " **SOME EXPERIENCES OF HEALTH FOR ALL IN INDIA** *"*

and has got published in volume **07**, *Issue* **02**, **FEBRUARY-2018**

The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author

176

Executive Editor | *Editor in Chief* | *Member, Editorial Board*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Computer Science

JAC : A JOURNAL OF COMPOSITION THEORY

ISSN NO: 0731-6755 / Impact Factor - 5.7

web : www.jctjournal.com, e-mail : jctjournal@gmail.com

Certificate of Publication

This is to certify that the paper entitled

"ENVIRONMENTAL PROBLEMS OF INDIA: ISSUES AND CHALLENGES"

Authored by

Dr. R. SARAVANAN, Assistant professor

from

Urumu Dhanalakshmi College (Affiliated to Bharathidasan University)

Has been published in

JCT JOURNAL IN VOLUME XII ISSUE IX SEPTEMBER 2019

SEBASTIAN ZEKI
EDITOR IN CHIEF
JCT JOURNAL

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Computer Sciences and Engineering

Scholarly Peer-Reviewed Scientific Research Publishing Journal

Publication Certificate

This is to certify that

M. Hemalatha

has published a paper entitled "Clothes Protection from Rain Based on Internet of Things (IOT)" in International Journal of Computer Sciences and Engineering, Volume-06, Special Issue-11, Dec 2018, after review reports of our editorial board and review board.

We wish you for your success and bright future.....

Managing Director
IJCSE, ISSN: 2347-2693
www.ijcseonline.org
editor@ijcseonline.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJCSE International Journal of Computer Sciences and Engineering Open Access
Research Paper Vol.6, Special Issue.11, Dec 2018 E-ISSN: 2347-2693

Clothes Protection from Rain Based on Internet of Things (IOT)

M. Hemalatha

Department of Computer Science, Urumu Dhanalakshmi College, Trichy, India

*Corresponding Author: hemalatham.mscs@gmail.com

Available online at: www.ijcseonline.org

Abstract— Now days it is difficult to predict the changes in season especially during rainy season. In rainy season it is very difficult to prevent the wet clothes from the rain. So there is need for human intervention to continuously monitor this. Keeping a person continuously watching for rain is too much stupidity as a waste of time. As the advancement in science technology is developing, the human comfort & needs are also increasing proportionally. Thus, it is important to take a small step towards the comfort ability and save our time. Thus, in this paper we have proposed a system which includes combination of sensor technology and Internet of Things (IoT). This proposed electro mechanical system(Arduino Uno, Sensor, Transistor and Diode) which continuously monitors the rain in rainy season and automatically takes back the clothes from rain to protect from wet and send fast information to user using GSM (Global System for Mobile) mobile device using SMS (Short Messaging System).

Keywords: *Internet of Things (IoT), Arduino Uno, Rain Drop Sensor, BC547 Transistor, 1N4007 Diode,* DC Motor, GSM.

I. INTRODUCTION

The main objective of this paper is to make an automatic based system which protects clothes from being wet during rain without any human being. Use of microcontroller and the sensor based system, to frame and implement a system which protects the clothes automatically by detecting rain without the need of human being.The Internet of Things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data. Each thing is uniquely identifiable through its embedded computing system but is able to inter-operate within the existing Internet infrastructure.

SMS (Short Message Service) is a GSM mobile technology that can perform remote communication wherever they are. Through this facility messages can send quickly, accurately and at a low cost. Mobile phone with SMS facility will be very useful when applied to integrated security systems, where the information send by a security system and the information received by the user mobile phone in the form of SMS.

II. MOTIVATION

We decided to make an automatic system which protects clothes from being wet during rain, without any human being because it is a basic problem in the region where it rains heavily. It consists of microcontroller and a sensor. We are going to frame a controller that fulfills the automation work.

III.WORKING METHODOLOGY

In this system, the thread is enhanced with the use of sensor to detect rain drops. The sensor used is rain drop sensor. When the sensor detects rain the motor will rotate anticlockwise and the thread will be pulled in and protect the clothes. If there is no rain, the motor will rotate clockwise and the thread will be pulled out.The concept behind this design is to combine both software and hardware. Software being the Arduino and Hardware is Arduino Uno microcontroller based sensor unit. In software part have developed code for microcontroller for controlling moving thread.

IV. BLOCK DIAGRAM

In the above block diagram, there are four parts which as follows:
Back End which includes dc motor, roof, rain drop sensor etc.
1. Arduino Uno (ATmega328)
2. GSM module is an interfacing system
3. Front end which includes a mobile device having android application

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Computer Applications (0975 – 8887)
Volume 109 – No. 6, January 2015

Identification of Application-Suitability of Point Operations on Digital Images using MATLAB

R. Swaminathan
Asst.Professor
Urumu Dhanalakshmi College, Kattur,
Tiruchirapalli -19,
Tamilnadu, India

ABSTRACT

Spatial Domain and Frequency Domain operations play an important role in Digital Image Processing. Spatial Domain operations directly manipulate the pixels of a given image and contain a different category of operations, which include point, local and global operations. This paper mainly deals with point operations in order to identify their application-suitability on digital images using MATLAB and proposes a new function on contrast-stretching.

Keywords

Spatial Domain, Image Negative, Square root, Logarithm, Thresholding, Contrast Stretching.

1. INTRODUCTION

Digital images are more popular with computer-users rather than analog images. The reason is that digital images can be stored in a digital computer, can be transmitted over networks, and some digital processing can be applied to them using digital computers to extract useful information. Spatial Domain Operations that can be applied to digital images include point, neighbourhood and global operations. Among these operations this paper mainly deals with point operations and proposes a new function that is based on the existing one given below

$$g = 1./(1+(m./f).^E) \qquad [1]$$

Where f denotes the input image, g denotes the output image. In this function the two elements m and E play an important role in determining the contrast of the image (g). The new function which has been derived from the above function is given below

$$g = (1./(1+(m./f).^E)) + c$$

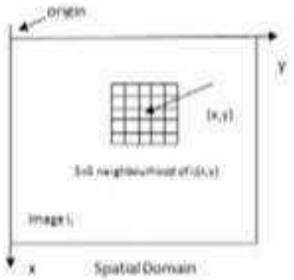


Fig 1 : Neighbourhood pixels of (x, y)

The above picture has been drawn based on the information given in the reference [1] & [3].

3. IMAGE NEGATIVE

This is one of the image processing techniques, which is used to enhance white or gray details embedded in dark regions of an image. It can be expressed using mathematical notations as follows

$$g(x,y) = 255 - f(x,y) \qquad [2]$$

Where $f(x,y)$ is the input image and $g(x,y)$ is the output image.

3.1 Implementation

Activate Windows
Go to Settings to activate Windows.

```
img = imread('e:\leaf.jpg');
img=rgb2gray(img);
[rows,cols]=size(img);
neg_img=zeros(rows,cols);
```

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Computer Applications (0975 – 8887)
Volume 134 – No.2, January 2016

Application of Spatial Domain Filters on Noisy Images using MATLAB

R. Swaminathan
Asst.Professor
Urumu Dhanalakshmi College, Kattur
Tiruchirapalli -19
Tamilnadu, India.

ABSTRACT
Noise is an unwanted information present in an image. Such unwanted information in an image can be removed with filters. In digital image processing, filters can be applied on an image in two ways, which include spatial and frequency domain. This paper mainly deals with the application of spatial domain filters on noisy images for the purpose of identifying the efficiency of the filters in terms of enhancing the quality of the image by removing the noise present on it.

Keywords
Salt & Pepper Noise, Gaussian Noise, Speckle Noise, Mean Filter, Median Filter, Gaussian Filter and Wiener Filter.

1. INTRODUCTION
Noise present in an image affects the originality of the image and makes the process of interpretation of the image more difficult. Generally, an image gets affected by noise during its acquisition, transmission and storage. There are several ways that noise can be introduced into an image, depending on how the image is created. For example,

- If the image is scanned from a photograph made on film, the film grain is a source of noise. Noise can also be the result of damage to the film, or be introduced by the scanner itself.
- If the image is acquired directly in a digital format, the mechanism for gathering the data (such as a CCD detector) can introduce noise.
- Electronic transmission of image data can introduce noise. [1]

Based on its nature, noise can be modeled as either an additive or a multiplicative process.

these filters in terms of minimizing noises present in the images.

In ref [3], the author has pointed out that Wiener filter performs better in removing Gaussian noise as well as Poisson noise than other filters, and Median filter provides better results for Gaussian noise and Poisson noise. But in this paper, it has been pointed out that mean filter performs better in removing Gaussian noise than median filter.

In ref [3], the author has dealt with the conversion of 24-bit images into 8-bit images before adding noise to the images and the application of Median and Wiener filters on them. But this paper deals with the application of Median and Wiener filters directly on 24-bit images without doing conversion from 24-bit to 8-bit.

In ref [2], the author has implemented the two equations given below to characterize the quality of 8-bit images. But this paper deals with the modification of these equations to be used on 24-bit images. The details of the modifications made on these two equations shown under the title of Image Quality Measuring Tools.

$$MSE = \frac{1}{MN}\sum_{x=0}^{M-1}\sum_{y=0}^{N-1}[f(x,y) - \hat{f}(x,y)]^2$$

$$PSNR = 20\log_{10}\frac{255^2 MN}{\sum_{x=0}^{M-1}\sum_{y=0}^{N-1}[f(x,y)-\hat{f}(x,y)]^2}\ dB \quad [2]$$

In ref [5], the author has indicated that Mean and Gaussian filters remove Gaussian noise. But, in this paper, it has been indicated that wiener filter performs well in removing Gaussian noise present in an image than mean and Gaussian filters.

Norbert Wiener proposed the concept of Wiener filtering in the year 1942. There are two methods: (i) Fourier-transform

Activate Windows
Go to activate Windows.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Synthesis and Characterization of ZnO Nanoparticles for Chemiresistive Ammonia Vapor Sensor

by *S. Fairose & Suhashini Ernest**

INTERNATIONAL JOURNAL OF ADVANCED SCIENTIFIC RESEARCH & DEVELOPMENT (IJASRD)
P-ISSN: 2395-6089 | e-ISSN: 2394-8906 | Impact Factor: 2.415 | Vol 03, Iss 01, Ver I, (Jan – Mar'2016) | PP 159 – 177

ABOUT THE AUTHOR(S)

Ms. S. Fairose has finished her master degree in Physics in Urumu Dhanalakshmi College, Trichy. She is a passionate research scholar in physics, with more than 2 years of accomplished experience in research work. She has participated & presented 11 research paper in an international conference conducted by various institution in Tamil Nadu and also published one article in an international referred journals in the area of physics. Currently she pursuing her doctoral research in Urumu Dhanalakshmi College, Trichy, under the guidance of Dr. Suhashini Ernest.

Dr. Suhashini Ernest (corresponding author) is a Principal in Kaypeeyes College of Arts & Science, Kotagiri. She is a passionate academician, research supervisor in physics, with more than 30 years of accomplished experience in teaching in industry. She has participated and presented 22 research papers in an international and national conference conducted by various institutions in Tamil Nadu and also published over 13 articles in national and international referred journals in the area of thin film, ultrasonic, etc. She produce 57 M.Phil. / 7 Ph.D. Research Scholars in the field of physics and 3 doctoral scholars are doing their research work under her guidance.*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Computer Applications (0975 – 8887)
Volume 158 – No 2, January 2017

Digital Image Filtering in Transform Domain using MATLAB

R. Swaminathan
Asst. Professor,
Department of Computer Science
Urumu Dhanalakshmi College,Kattur,
Tiruchirappalli – 620019,
Tamil Nadu,
India.

T. Meyyappan, PhD
Professor,Department of Computer Science and Engineering, Alagappa University,
Karaikudi – 630003
Tamil Nadu,
India.

ABSTRACT
Application of filter on digital images can be made in two ways, which include spatial domain and transform domain known as frequency domain. The spatial domain deals directly with manipulation of data, pixel, present in an image, whereas the transform domain deals with manipulation of image-data in frequency domain. The aim of this paper is to deal with manipulation of data present in an image in frequency domain and identification of performance of frequency domain low-pass filters in terms of removing noise present in the digital image and frequency domain high-pass filter in terms of highlighting the edge of the digital image. And this paper also deals with image-quality measuring tools such as MSE and PSNR for the purpose of identifying a frequency domain low-pass filter which is best at removing salt and pepper noise present in the digital image.

Keywords
Spatial domain, Frequency domain, Transform domain, Ideal low-pass filter, Ideal high-pass filter, Butterworth filter and Gaussian filter.

1. INTRODUCTION
Spatial domain and Transform domain are the methods in which filters can be applied on digital images. The purpose of filter is to enhance the details of an image by choosing or rejecting certain frequent components present in it. The spatial domain method operates directly on pixels, whereas the transform domain method operates on the Fourier transform of an image and then transforms it back to the spatial. [1] A symbolic representation for filtering in both the spatial and frequency domain is given below

image from spatial domain to frequency domain, Fourier transform is being used. The 2D Fourier Transform is an important image processing tool to decompose a grayscale image into its sine and cosine components. The output of the transformation represents the image in the frequency domain [3].

In ref [4], the author has said that the high-pass filter preserves the edge details and the low-pass filter removes noise in an image by preserving details, and the Gaussian filter has minimum RMSE and maximum PSNR values. But, in this paper not only objective fidelity criteria but also subjective fidelity criteria have been used to identify the performance of filters. Its result has been shown in the section 4.1.1 and 4.2.

In ref [5], the author has used the same cut-off frequency for low-pass and high-pass filters and pointed out that higher order Butterworth low pass filter gives better smoothing result than lower order filter, Gaussian low pass filter's performance is better than lower order BLPF and the result of GHPF is similar to lower order Butterworth filter. But in this paper, two different cut-off frequencies have been used for the purpose of identifying the performance of low-pass and high-pass filters.

In ref [6], the author has proposed a decision-based, detail-preserving restoration method and said that it is the ultimate filter for removing salt and pepper noise. But in this paper the removal of salt and pepper noise has been carried out using frequency domain filters.

In ref [7], the author has pointed out that High pass filtered images are very dark and as the cut-off frequency increases,

Activate Windows
Go to Settings to activate Windows.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Management Studies

The International Journal of Analytical and Experimental Modal analysis

An UGC-CARE Approved Group - A Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0886-9367 / web : http://ijaema.com / e-mail: submitijaema@gmail.com

Certificate of Publication

This is to certify that the paper entitled

"MODERN MANAGEMENT PRACTICES IN PUBLIC SECTOR BANKS"

Authored by :

Y. GLORY VIOLET ARON

From

Urumu Dhanalakshmi College, Trichy

Has been published in

IJAEMA JOURNAL, VOLUME XI, ISSUE IX, SEPTEMBER - 2019

6.3 IMPACT FACTOR

ISO International Organization for Standardization 7021-2008

Michal A. Olszewski Editor-In-Chief

IJAEMA JOURNAL

http://ijaema.com/

3.3.2. Number of research papers per teacher in the Journals notified on UGC

3.3.2. Number of research papers per teacher in the Journals notified on UGC

The International journal of analytical and experimental modal analysis ISSN NO: 0886-9367

MODERN MANAGEMENT PRACTICES IN PUBLIC SECTOR BANKS

Y. GLORY VIOLET ARON
Ph.D Research Scholar, Department of Management, Urumu Dhanalakshmi College, Trichy

Dr. N. RAJAMANNAR
Assistant Professor & Research Advisor in Management,
PG & Research Department of Commerce, Urumu Dhanalakshmi College, Trichy

ABSTRACT

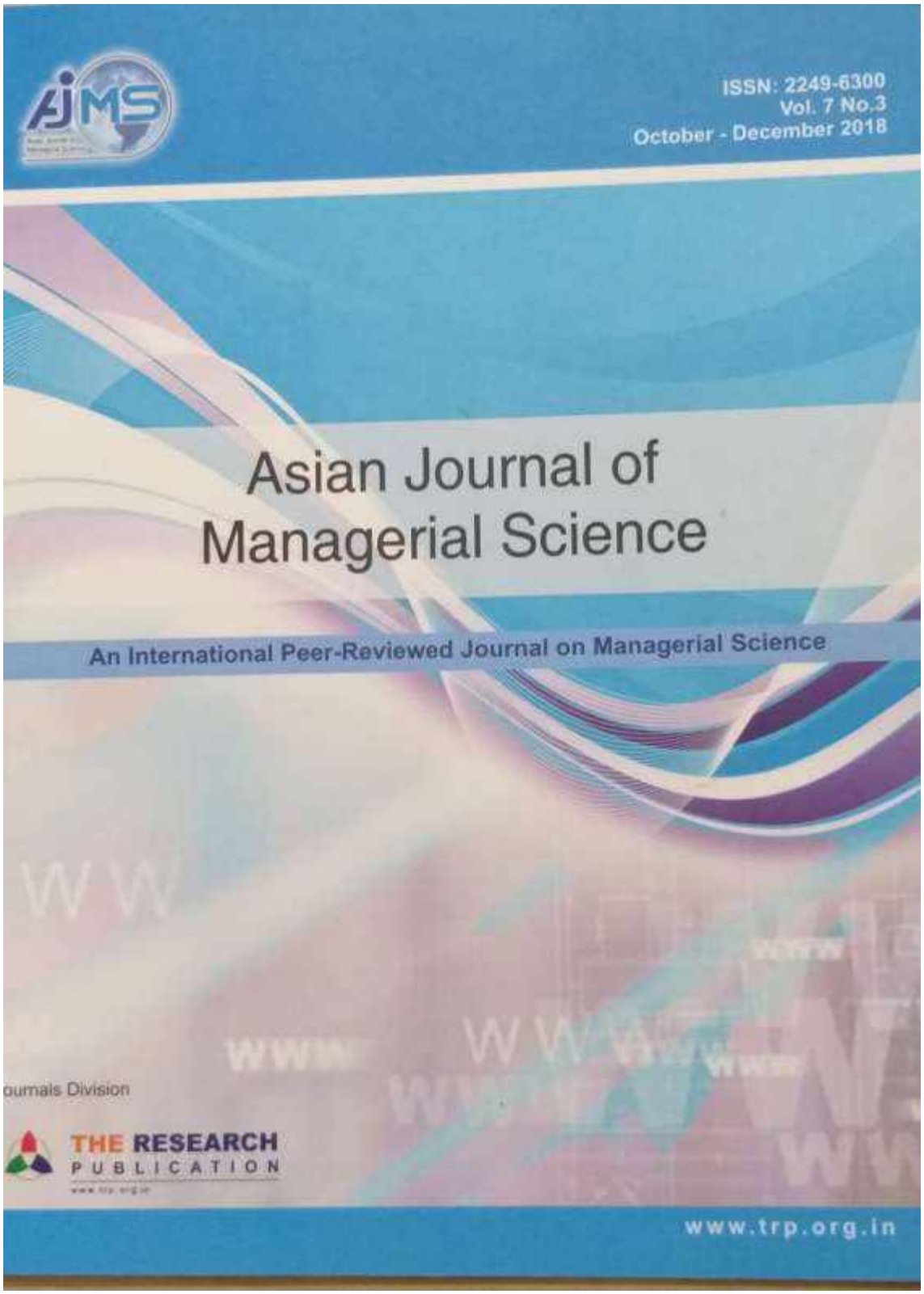
Indian Banking industry is functioning under the challenges thrown in by market economy. To survive in the highly competitive market, managers are being pressurized to improve quality, increase productivity, cut down cost and eliminate inefficiency. The collective efforts of the employer and the employees become important in this context which necessitates the need for human resource development practices. The success of the banks depends not only on the satisfaction level of the employees working in the banks. The level of satisfaction of the bank employees can be certified and improved by effective HR – practices adopted by the banks. In this regard, this paper made to attempt to verify the HR practices of selected banks.

Keywords: HR Practices, Employees, Satisfaction, Performance Appraisal, HRD and Grievance handling.

1. INTRODUCTION

Modern management practice is an important in development of organizational performance for the past several years especially in the banking industry. Modern Management practices are being increasingly treated as dependent rather than independent variables in the olden days, management professionals and researchers were involved in exploring how Modern Management practices affected employee performance, and overall bank performance of the banking industry. Modern Management Practices is important for banks because banking is a service industry. Management of people and its risk are two key challenges faced by the banks. A well-organized risk management may not be possible without efficient and skillful manpower. Human resources play a most important role in achieving innovative and high-quality product or services. If the employees of an organisation are satisfied with their jobs, the organisation can

3.3.2. Number of research papers per teacher in the Journals notified on UGC



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Asian Journal of Managerial Science
ISSN: 2249-6300 Vol.7 No.3, 2018, pp.14-17
©The Research Publication, www.trp.org.in

Working Capital Management in Ancillary's of BHEL, Tiruchirappalli, Tamil Nadu

D. Muthusamy[1] and M. Sathish Kumar[2]
[1]Associate Professor, PG & Research Department of Commerce,
Kurinji College of Arts and Science, Tiruchirappalli, Tamil Nadu
[2]Ph.D. Research Scholar, Assistant Professor, Department of Commerce (SFC),
Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu
E-Mail: sathishkumar853@yahoo.co.in

Abstract - **The amount of profit largely depends on the magnitude of sales. However sales do not converted into cash instantaneously in this concern. There is always a time gap between the sales of goods and receipt of cash. Working capital is required for this period in order to sustain the conversion activity. In case adequate working capital is not available for the period, the company will not be in a position to sustain the sales since it may not be in a position to purchase raw materials, payment of wages and other operating expenses that required for manufacturing the goods that to be sold. It is a descriptive that capital which is to consider the difference between book value of current asset and current liabilities. This study has to analysis the working capital management in ancillary units of BHEL.**

Keywords: **Working Capital Management, Ancillary Unit, Sales**

I. INTRODUCTION

Working capital refers to the firm's total investment on current asset to current liabilities. The term working capital is the amount of funds necessary for the cost of operating the enterprise. Working capital is a going concern is a revolving of funds it consists of cash receipts from sales, which are used to cover the cost of operation. There are two concepts of working capital- gross working capital and net working capital. Gross working capital refers to the firm's investment in current assets. Current assets are the asset which can be converted in to cash within the accounting year and includes cash, short term securities, debtors, bills receivable and stock.net working capital refers to the difference between current asset and current liabilities. Current liabilities are those claims of outsiders which are expected payment with in accounting period and include creditors, bills payable and outstanding expenses. Net working capital can be positive or negative. Positive net working capital will arise when current asset exceeds current liabilities. Negative working capital can be occurred when current liabilities are in excessive of current assets. It is a descriptive of that capital which capital is to consider it as the difference between book value of current asset and current liabilities.

II. OBJECTIVES OF THE STUDY

1. To analysis the trend in investment in working capital and its components of the Ancillary Unit.
2. To analysis the efficiency of inventories and its components and receivable in the Ancillary Unit.
3. To study the method of financing of working capitals budgeted in Ancillary Unit.
4. To draw findings and make conclusions on the basis of the above analysis.

III. METHODOLOGY

The primary methods are used for collection of ancillary's details during period of study. The annual reports are used as secondary which is audited and some updated information collected in news papers and website of BHEL about the concern. The researcher has taken an ancillary out of twelve ancillaries namely Devi Engineering Industry situated in nearby BHEL Trichy which getting orders directly from out sourcing.

IV. SCOPE OF THE STUDY

Even though the efficiency of an organization and its management would involve a study of all the functional aspects viz., production, sales, finance, personal, etc., since it was felt that such a study though would be exhaustive would required a long time and large group of work men and money, due to constraints of time money and other factors.

V. REVIEW OF LITERATURE

Prasad 2001 conducted a research Study on the Working Capital Management in paper Industry. His samples consisted of 21 paper mills from large, medium and small scale industry for a period of 10 years. He reported that the chief executives properly recognized the role of efficient use of working capital in liquidity and profitability, but in practice they could not achieve it. The study also revealed that fifty percent of the executives followed budgetary method in planning working capital and working capital management was inefficient due to sub-optimum utilization of working capital.

Ghosh and Maji, 2003 in this paper made an attempt to examine The Efficiency of Working Capital Management of the Indian Cement Companies during 1992-1993 to 2001-

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN: 2249-894X

Impact Factor : 5.7631(UIF)

REVIEW OF RESEARCH

UGC APPROVED

International Online Multidisciplinary Journal

Volume - 8 | Issue - 2 | November - 2018

RATIO ANALYSIS IN ANCILLARY UNITS OF BHEL - TIRUCHIRAPPALLI

Sathish Kumar M.

Ph.D Research Scholar, Assistant Professor, Department of Commerce (SFC), Urumu Dhanalakshmi College, Tiruchirappalli , Tamil Nadu.

ABSTRACT: Financial ratios highlight the importance of effective management of an organization. Short-term maturing obligations or not that can be easily known by applying liquidity ratios. At the same time, long-term solvency position can also be measured .....

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
UGC APPROVED JOURNAL NO. 48514
ISSN: 2249-894X
VOLUME - 8 | ISSUE - 2 | NOVEMBER - 2018

RATIO ANALYSIS IN ANCILLARY UNITS OF BHEL - TIRUCHIRAPPALLI

Sathish Kumar M.[1] and Dr. D. Muthusamy[2]
[1]Ph.D Research Scholar, Assistant Professor, Department of Commerce (SFC), Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu.
[2] Research Advisor, Associate Professor, PG & Research Department of Commerce, Kurinji College of Arts and Science, Tiruchirappalli, Tamil Nadu.

ABSTRACT

Financial ratios highlight the importance of effective management of an organization. Short-term maturing obligations or not that can be easily known by applying liquidity ratios. At the same time, long-term solvency position can also be measured by the application of leverage or profitability ratios. It is an established practice for buyers to expect credit from sellers. This practice is forced upon the small industrialists by the large ones. A situation has developed in which buyers do not pay for fairly long and get away with it. Problems in ancillaries may arise when an attempt is made to compare the ratio of one business with those of other organization, and these could arise as a result of different accounting basis and the aftermath result could not be relied upon. Management policies and action could lead to high profit readings; comparison of such company with another could be misleading.

KEYWORDS: *Ratio Analysis, Ancillary Units, Financial Ratios.*

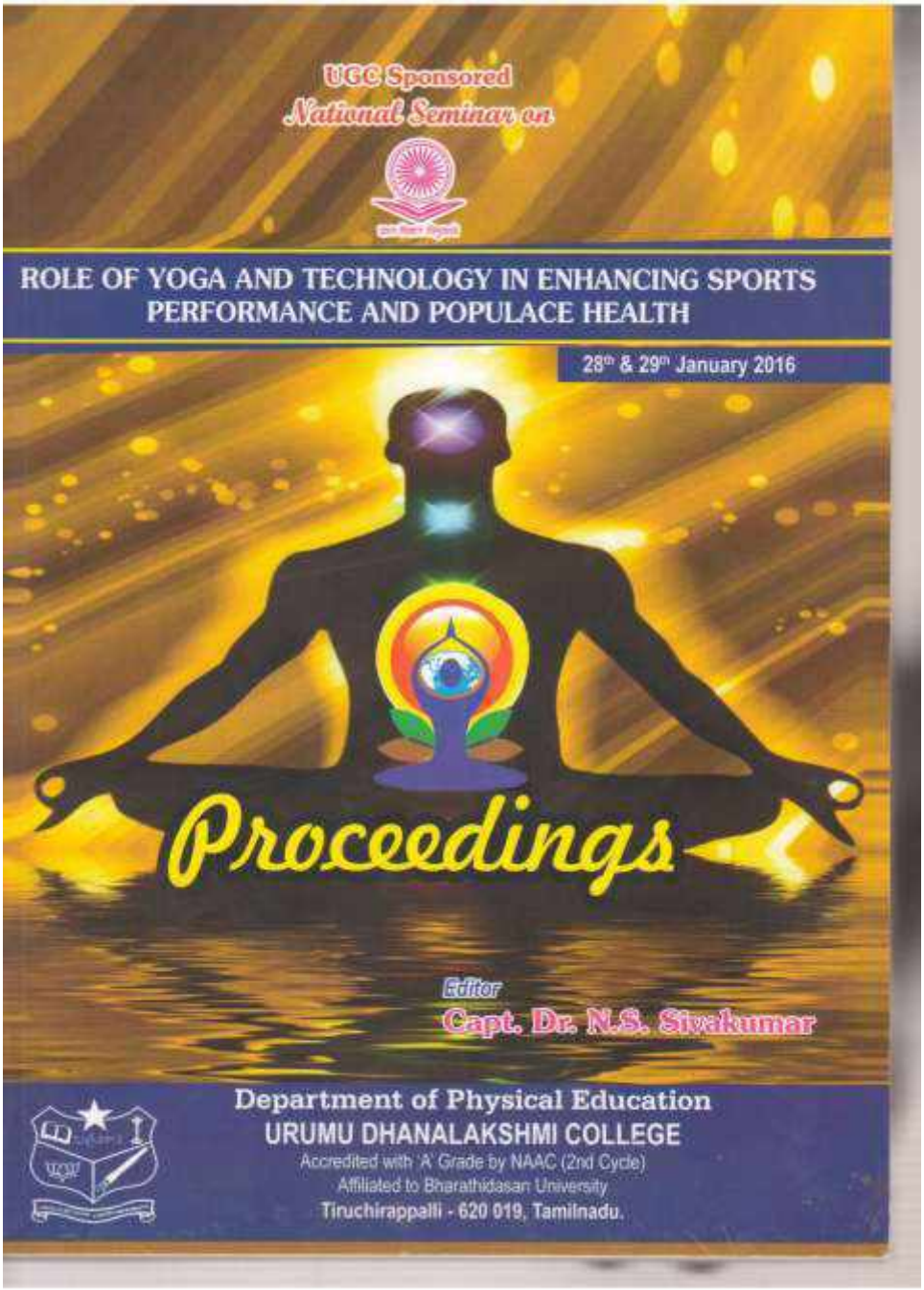
INTRODUCTION

'Small Enterprises' means an industrial unit which employed less than 50 workers producing with electricity and then 100 workers without using electricity and had assets not exceeding Rs 5 lakhs. In 1960, and even now the definition delimits the size of industries in terms of capital investment alone. Later on in 1966, some modification was made but that reduced the items to be included in evaluating the capital investment. In 1966, the small scale enterprises were defined as undertakings with a fixed capital investment of less than Rs. 7.5 lakh and ancillaries with a fixed capital investment of Rs 10 lakh. Investment will imply investment in fixed assets in plant and machinery, whether held in ownership term or by lease or by hire purchase. In 1973, this limit was revised to Rs. 10 lakh for small scale enterprises and Rs. 20 lakh in case of ancillaries. One more category of small units known as tiny sector whose investment was fixed at less than 1 lakh.

Under the Industrial Policy statement of 1980, the limit was further raised to 20 lakhs in case of small- scale units and Rs. 25 lakhs in case of ancillary units. On account of minor units, the point of confinement of venture had been raised from Rs. 1 lakh to Rs. 2 lakh. In March 1985, the government has again revised the investment limit of small-scale to Rs. 35 lakhs and for ancillary units to Rs. 45 lakh. Again, the Industrial Policy Statement of May 1991, increased the investment celling for small scale

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Physical Education



3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Study on Yogic Practice and Physical Exercises on Selected Psychological Variables among Male College Cricket Players

Dr. N. S. Sivakumar

Director of Physical Education, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 10th August 2015, Accepted 20th October 2015

Abstract

The purpose of the study was to determine the impact of training in yogic practice and physical exercises on selected psychological variables among male college cricket players. To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups of sixteen and named Group–I as yogic practice group, Group–II as physical exercises group and Group–III as control group. Subjects in the Group-I underwent the yogic practice, subjects in the Group-II underwent the physical exercises and subjects in the Group-III did not go through any specific yogic (or) physical exercises but their regular practice. During the training period, both the yogic practice and physical exercise were given for both the experimental groups, for a duration of twelve weeks. The practice was for forty five minutes a day on five days per week under the supervision of the investigator. The psychological variables were cognitive, somatic and self confidence. The psychological factors were measured by standardized questionnaire namely competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). To make the study more scientific, the subject reliability, reliability of data, instrument reliability and tester reliability were established. The data was collected before and after the experimental treatment. Analysis of Covariance (ANACOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All the statistical analysis tests were computed at 0.05 level of significance. The cricket players in the yogic practice group and physical exercises group had shown significant changes in all the selected psychological variable when compared to control group. The control group did not show significant change in any of the selected variables.

Keywords: Yogic Practice, Physical Exercise, Cricket, Anxiety, Self Confidence.

© Copy Right, IJRRAS, 2015. All Rights Reserved.

Introduction

The game of cricket is widely played in three formats. The test match, fifty over's one day international and twenty-20 (T-20). The game of cricket is a high energy team sport. It is attractive and at the same time very agile. Performance in cricket is determined by several factors like skill, technique, fitness, and training. In sports, training is generally understood to be synonym of doing exercise. In a narrow sense training is physical exercise for the improvement of performance. Training involves constructing an exercise programme to develop an athlete for a particular event. Many studies have reported that physical exercises would improve physical, physiological, psychological parameters in most of the sports. Mal (1979) opined that training is a programme of exercise designed to improve the skills and increase the energy capacity of an athlete for a particular event. The main aim of training in sports is to achieve high level of performance. This aim relates to different factors. The sports performance depends largely on physical fitness. Sports activity is a physical activity, which is not possible without motor abilities. Therefore, the improvement of physical fitness or motor abilities is the principal aim of sports training. Physical fitness is the ability to perform daily tasks with sufficient strength and vigor without experiencing undue fatigue, and to have enough strength and stamina left over to enjoy recreational pursuits and be able to meet unforeseen emergencies (Bucher, 1985).

Correspondence
Dr.N.S.Sivakumar,
E-mail: siva.ns08@yahoo.com, Ph: +9198949 97097

Methodology

The purpose of the study was to determine the effect of training in yogic practice and physical exercises on selected psychological variables among male college cricket players. To achieve the purpose of this study, forty eight college cricket players

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Yogic Practices to Manage Diabetes Mellitus

Dr.N.S.Sivakumar

Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 17th September 2018, Accepted 12th October 2018

Abstract

Human race has become machines in this technology era. They think fast, act fast, live fast, eat fast and also end their life very fast. This machine life will soon lead to fatality. Even though there are many reasons for this machine life, the human race has to survive. This machine life leads to increase in Diabetes Mellitus all over the world. World Health Organization(WHO) states that the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014. The global prevalence of diabetes among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014. Diabetes prevalence has been rising more rapidly in middle- and low-income countries. The prevalence of diabetes in the age group of 20 to 79 years stood at nearly 9% of the population in India. The greatest number of people with diabetes is between 40 to 59 years of age. One of the best remedial activity to manage this fatal life style is yoga.

Keywords: Yogic Practices, Diabetics, Obesity.

© Copy Right, IJRRAS, 2018. All Rights Reserved.

Introduction

Diabetes mellitus (DM) is a chronic progressive metabolic disorder characterized by hyperglycemia mainly due to absolute (Type 1 DM) or relative (Type 2 DM) deficiency of insulin hormone [1]. The problem of diabetes has grown enormously in the last two decades. In 2014, around 387 million people had diabetes with a prevalence of 8.3%; by 2035 this will rise to 592 million. The International Diabetes Federation (IDF) currently states that the top 5 countries with highest amount of diabetic patients are china, India, United States, Russia and Brazil. The number of people with type 2 diabetes is increasing in every country.77% of people with diabetes live in low- and middle-income countries.179 million people with diabetes are undiagnosed. Diabetes caused 4.9 million deaths in 2014 [2]. Primary prevention of diabetes by life style modification is a feasible solution to arrest the rising epidemic of the disease. Government and non-government organizations should create awareness about the disease among public and also teach them way to self-care and benefits of lifestyle modification.

Diabetes may result due to a lot of genetic-environmental interactions. The growing incidence of diabetes is mainly attributable due to the increasing rates of urbanization, migration from rural to urban areas and adoption of sedentary life style and unhealthy diet habits [3,4].

Correspondence
Dr.N.S.Sivakumar
Email:siva.nat08@yahoo.com; Ph: +9198949 97097

Obesity

Obesity frequently accompanies type 2 diabetes and many studies have shown it to be a powerful predictor of development of type 2 diabetes [5,6]. Obesity has increased rapidly in many populations in recent years because of an interaction between genetic and environmental factors such as metabolic characteristics, physical inactivity and high calorie composition of the diet [5]. This increase in obesity has been accompanied by an increasing prevalence of type 2 diabetes. Those with higher Body Mass Index (BMI) have much higher incidence rates of type 2 diabetes at earlier ages than those with lower BMI among whom the incidence rise in the older age groups directly.

Lack of physical activity

During the last few decades, most of the working population had changed their lifestyle from active working occupations like agriculture to a less demanding works like office jobs. TV, video games also makes the children refrain from regular physical activity. It was observed that the prevalence of diabetes was almost 3 times higher in individuals with sedentary life style compared to those having heavy physical activity (23.2% vs. 8.1%) [7].

Stress

Stress is defined as a 'stimulus event of sufficient severity to produce disequilibrium in the homeostasis of physiological systems' resulting from a variety of stressors. Stress also plays a role in diabetogenesis. Changes related to stress precipitates hyperglycemia by increasing levels of hormones like glucagon, cortisol, growth hormone, catechol amines,

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

IJRRAS

Yogic Diet

Dr.N.S.Sivakumar

Associate Professor and Head, Department of Physical Education, UrumuDhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 16th February 2019; Accepted 5th March 2019

Abstract

Yoga is a healthy exercise for mind, body and soul. Yoga enhances the performances of internal organs and external appearance. This is always guided by appropriate intake of food. Eating right kind of food is an important factor in achieving a physical, mental and emotional balance. Among the three types of food namely sattvic, rajasic and tamasic, sattvic is the best food for yoga practitioners.

Keywords: Yama, Ahimsa, Sattvic, Rajasic, Tamasic.

© Copy Right, IJRRAS, 2019. All Rights Reserved.

Introduction

The first step in Yoga practices is *Yama*, meaning restrains, which covers the concept of *'Ahimsa'* meaning non-violence, non-hurting, non-killing and non-injury. Mother nature has given supremacy to man by giving and providing more intellectual power compared to other creatures on earth. The virtue of Non-violence is to curb that power. Man has no right to kill or hurt any other creatures. Yoga practice thus restricts the act of man so he can't misuse his powers on other creatures. In other words there is a straight message to eat live and survive on the products naturally grown or cultivated by man in order to cover the needs of the human population on earth.

Yoga

The word "yoga" originates from the sanskrit root yuj which means "Union". On the spiritual plane, it means union of the Individual Self with the Universal Self; while, for the man of this world, it is the union of the physical, physiological, mental, emotional and intellectual bodies leading one to live a integrated, purposeful, useful and noble life.

Yoga is a healthy exercise for the mind, body and soul. Just as the exercises you practice during yoga are good for the internal organs and external appearance, eating the appropriate foods will enhance the benefits of yoga. It is meant to help yoga practitioners choose foods that will enhance the exercises. In yoga, it is vital to eat food that are nutrient-rich in their natural state as opposed to processed and high-fat foods.

Correspondence
Dr.N.S.Sivakumar
E-mail:siva.nsl08@yahoo.com; Ph: +9198949 97097

Food

Eating the right kind of food is an important element in achieving a physical, mental and emotional balance. In yogic literature foods that are beneficial to us are said to be Sattvic, or pure. Impure foods that can upset our physical, emotional, or intellectual balance are referred to as being in the categories. Tamasic (stale or rotten) and Rajasic (stimulating).

In Yoga, it is said that 'What we eat is what we are.' Meaning the food has a direct impact on human mind, personality and behavior. After all Yoga is basically a healthy life style for spiritual upliftment!. The Science of Yoga has both, ideology and technology: suggestive theory and practical methods. Yoga suggests and supports vegetarian diet, naturally grown fruits and vegetables, all grains, pulses and dairy products as a healthy diet with few options. The options are available to those who have reached the higher level of understanding and perception. The yogic diet emphasis vegetarian and dairy products for mainly two reasons, firstly: The principles of Yoga are based on the laws of the Mother Nature and secondly it purely believes in the core nature. The more we are close to the nature we are more healthy, the more we are away from her we are more sick and ill and most unhealthy!. There is always a debate and discussion that plucking and cutting any fruits, vegetables, plants and trees, is also an act of violence. Yoga gives further explanation that we have only right to cut, which, is grown naturally or cultivated by man himself! The seed itself has no life. We put life into it by providing land, manure, water, were efforts and care. So we have a right to pluck and cut! We are the cause and reason of that life. So for survival, cutting any naturally grown and cultivated plants or plucking fruits from a tree is not considered as an act of violence or sin as per the law of nature and Yoga.

Yoga science further explains that why vegetarian diet is good? It also gives scientific

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Enhancing Pace Bowling Skill in Cricket through Yogic Practice

Major.Dr.N.S.Sivakumar

Associate Professor and Head, Department of Physical Education, UrumuDhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 24th November 2018, Accepted 9th December 2018

Abstract

*Selected Yogic practices was applied as training method on experimental group of male students with a control group of equal number for a period of three months for training significance on cricket pace bowling skill. The status of the skill was measured through teacher made skill test before and after the training period. The obtained pre and post scores were analyzed through Analysis of covariance (ANCOVA) for statistical significance. Scheffe's Post hoc-test was applied to find out the better group among the two. The statistical significance detected on yogic practices group **47.8000** over the control group 37.0500 reveals a significant difference between the scores of pre and post treatment. The significant difference of yogic group over control group was due to the designed yogic practices undergone by the yoga group (Group-A) for a period of three months. The result proves that the designed yogic practices package has made a significant impact on the pace bowling skill in cricket of the yoga group compared to the other group.*

Keywords: Yogic Practices, Pace Bowling.

© Copy Right, IJRRAS, 2018. All Rights Reserved.

Introduction

Today the game of cricket is widely played in three formats. The test match, 50 over's one day International and twenty twenty. The cricket game is a high energy team sport. It is attractive at the same time very agile. Performance in cricket is determined by several factors namely skill, technique, fitness, and training. Yogic practice is an Indian method of exercise which is practiced over thousands of years for keeping the human body physically and mentally fit. Many research studies of the past reports that yogic training improves the physical fitness level as well as performance of sports person in various sports. Yogic practice plays an influential role in physical, physiological, psychological variables and performance in sports. In sports, training is generally understood to be synonym of doing exercise. In a narrow sense training is physical exercise for the improvement of performance. Training involves constructing an exercise programme to develop an athlete for a particular event. Many studies have reported that physical exercises would improve physical, physiological, psychological and performance parameters in most of the sports.

Methodology

To achieve the purpose of this study, thirty two college cricket players of Urumu Dhanalakshmi college affiliated to Bharathidasan University were randomly selected as subjects. Their age ranges from 17 to 20 years. The selected subjects (N=32) were divided into two equal groups and named Group-I as yogic practice group, Group-II as control group. Thus each group consisted of sixteen subjects. Subjects in the Group-I underwent the yogic practice, subjects in the Group-II went off of from any specific yogic (or) physical exercises other than their regular practices. During the training period, training was given for experimental group. The yogic practice was given for twelve weeks, five days per week of 45 minutes each day in the morning session under the supervision of the investigator.

The data collected through skill test before and after the experimental treatment was analyzed by ANACOVA. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analysis, test were computed at 0.05 level of significance.

Pace bowling in cricket

Test:	Pace bowling skill in cricket / Teacher made
Purpose:	To measure the pace bowling performance

Field Markings

Different zones are marked on the cricket pitch and specific measurements of each zone are as follows. The parallel lines are marked from the wicket 1.5 feet away from the centre of the wicket on each side. This is extended up to half of the pitch. Three lines parallel to the popping crease towards the half way of the pitch 1

Correspondence
Dr.N.S.Sivakumar
Email: siva.ns08@yahoo.com; Ph. -9198949 97097

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Sports Performance Through Yoga

Dr.N.S.Sivakumar

Associate Professor and Head, Department of Physical Education, UrumuDhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 30th December 2018, Accepted 28th January 2019

Abstract

The main purpose of yoga is to bring together the body, mind and soul through asanas, pranayama and dhyana. If yoga is properly practiced, the growth and development of players' skills in various sports and games will reach the peak. Yoga should be properly channelized with systematic guidance for ultimate benefit.

Keywords: ROM, Proprioception, core strength, weird.

© Copy Right, IJRRAS, 2019. All Rights Reserved.

Introduction

The word yoga is derived from Sanskrit which means 'yuj' meaning to bind, attach, join or yoke. Yoga is an ancient art based on harmonizing systems of development for the body, mind and spirit. The continued practice of yoga will lead to sense of peace and well being, and also the improvement of physical, physiological, mental and psychological abilities of human being.

Let's begin by putting a few preconceptions about yoga on the table. Yoga is... "...stretching." "...putting the body in weird and wonderful positions (mostly weird)." There is good reason why yoga has recently experienced such a boom – it works. Top athletes are now incorporating yoga into their training programmes and achieving amazing results. The Indian cricket team, Indian hockey team, Grand master V.Anand, Andy Murray, Andy Roddick, Venus and Serena Williams, Carl Lewis, Cathy Freeman, Ian Thorpe has incorporated yoga into their training. Tiger Woods is another sportsman who takes advantage of what yoga has to offer. Apart from being a great example as to how yoga can benefit the game, Tiger Woods is an even better example of the effect of yoga can have on the libido.

Benefits of Yoga

- Improves strength – physically and mentally.
- Improves body awareness and bio mechanical efficiency.
- Improves balance, coordination, agility and speed.
- Prevents injury.
- Improves concentration and relaxation.

Correspondence
Dr.N.S.Sivakumar
Email: sivan08@yahoo.com; Ph. +919894997097

If it's more flexibility or strength is needed then yoga will be the best. If it's better concentration is needed - yoga will sharpen the mind. If it's de-stressing is needed - yoga will chill out. If it's a stronger core or improved mental strength is needed - yoga will toughen up. And on top of that it'll massage and refresh the organs, get the metabolism going, the energy levels in balance, make breathing right and make body look fit. There is so much to be gained from doing yoga, especially for sportsmen and women.

Improved FLEXIBILITY is one of the most important benefits of yoga to the athlete. Tight muscles restrict range of motion (ROM) at a joint. They are unable to contract to their full potential and on top of that, they increase the work of their respective antagonistic (opposing) muscle/s. Tight muscles place undue strain on other areas of the body, reduce efficiency of movement and are more injury prone than muscles at optimal flexibility. Sportsmen and women tend to experience muscle tension due to the high intensity and sheer volume of the training they do, little attention being given to developing flexibility and insufficient rehabilitation after injury. Often too, muscle imbalances develop as a result of repetitive exercise, which can cause the body to become misaligned, heightening the chances of injury.

Yoga not only improves flexibility but it develops incredible CORE STRENGTH as well as muscular strength through a joint's full ROM. This is an important fact as in our typical sports and strength training regimens we most often develop strength through a limited ROM. Yoga uses body weight to safely and effectively develop functional strength (strength that is practical for the sport). This is not to say that yoga should replace an athlete's current strength training programme, yoga will be a great complement to weight training and should allow the athlete to gain more from it. Good core strength is a huge asset to any athlete. As well as providing support and protection to the spine, our

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Article

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Suryanamaskar – A Boon to Human Race

Dr.N.S.Sivakumar

Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India.

Received 14th January 2019, Accepted 5th February 2019

Abstract

Sun salutation (Surya Namaskar) is a comprehensive Yoga technique which incorporates physical activity, breath regulation, relaxation and awareness. Without the Sun, there will be no life on Earth. Surya Namaskar or Sun Salutation is an exceptionally old method of paying admiration or communicating appreciation to the Sun that is the wellspring of all types of life on the planet. Apart from improving physical stamina and endurance, Surya namaskar has been shown to influence an individual's perception and performance. There are numerous health benefits of Surya Namaskar for different system of the body especially musculoskeletal, cardiovascular, gastrointestinal, nervous system, respiratory and endocrinal. By practicing Surya Namaskar each and every cell of body gets revitalized and regenerated, therefore it is highly recommended by all yoga experts for healthy routine life. Apart from these benefits, Surya Namaskar also helps to keep the mind stress free, calm and illuminated. Thus, a regular practice of Surya Namaskar is highly recommended to keep the body and mind healthy. Though the Surya Namaskar steps are very scientific and practical, still it needs modern scientific justification to spread it globally. Keeping this thing into the mind the present review has been framed to revalidate sacred steps of Surya Namaskar on the basis of available evidence based studies.

Keywords: Surya Namaskar, yoga, asanas, physical exercises.

© Copy Right, IJRRAS, 2019. All Rights Reserved.

Introduction

Sun salutation (Surya Namaskar) is an ancient Indian method of offering prayers to the rising Sun in the morning along with a series of physical postures with regulated breathing aiming at range of physical, mental and spiritual benefits. In Sanskrit literature surya means sun, and the word namaskara means salutation. Therefore, this practice is known as the "Suryanamaskar" or 'salutation to the sun'. Facing east, in the early hours of morning, one standing with serene mind offers prayer to Lord Sun (Surya in sanskrit) with Surya namaskar. Along with physical postures, Suryanamaskar has specific spiritual connotations attached to it.

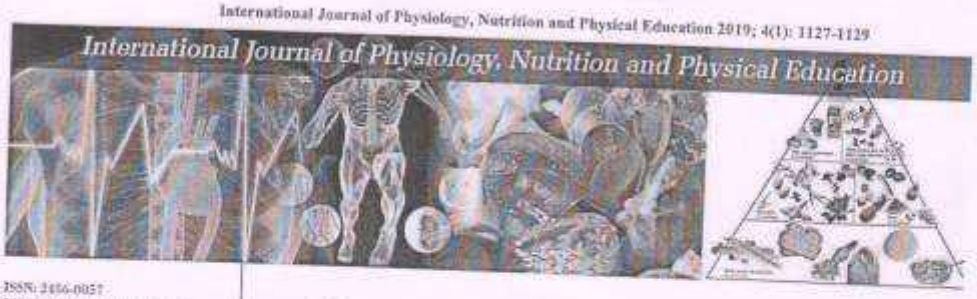
It has been said (by the old Rishis of India) that the distinctive parts of the body are administered by various Devas (divine motivations or awesome light). The sun powered plexus (situated behind the navel, which is the essential issue of the human body) is said to be associated with the Sun. This is the primary motivation behind why the old Rishis suggested the act of Surya Namaskar, on the grounds that the consistent routine of this method improves the sun based plexus.

Correspondence
Dr.N.S.Sivakumar
Email:siva.ns06@yahoo.com, Ph: +9198949 97097

which expands one's inventiveness and instinctive capacities. Surya namaskara is a series of asanas with strict breathing pattern. It revitalizes each and every cell of the body, gives physical strength, flexibility, and mental calmness. Surya namaskara includes a series of asanas (Specific posture of the body) which are- Pranamasan, hasta uthanasan, padahastasan, ashwasanchalanasan, ashtanaga namasakar, bhujangasan, and parvatasan[13]. While doing each asana a specific mantra should be chanted to worship the sun. According to the scriptures, if performed correctly, Suryanamaskar does not strain or cause injury. If performed in the morning, it relieves stiffness, revitalizes the body, refreshes the mind and purifies subtle energy channels [1]. Though the greatness of Surya namaskar has been greatly said in scriptures not much research has been done to understand its benefits. In an earlier study, it was speculated that Surya namaskar can be an ideal aerobic exercise as it involves both static stretching and slow dynamic component of exercise with optimal stress on the cardiorespiratory system [2]. A later study assessed the cardio-respiratory and metabolic responses of four rounds of Surya namaskar, a typical amount performed by practitioners, to determine its potential as a training and weight loss tool. It was found that participants exercised at 80% of age- predicted maximal heart rate (HRmax) during Round 2, 84% during Round 3, and 90% during Round 4. Average intensity during the four rounds was 80% HRmax, sufficient to elicit a cardiorespiratory training effect. Oxygen consumption

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Physiology, Nutrition and Physical Education 2019; 4(1): 1127-1129



ISSN: 2456-0057
IJPNPE 2019; 4(1): 1127-1129
© 2019 IJPNPE
www.journalofsports.com
Received: 01-11-2018
Accepted: 02-12-2018

Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Correspondence
Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Effect of yogic practices and physical exercise on psychological variables among male cricket players

Dr. NS Sivakumar

Abstract
To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group–I as yogic practice group, Group–II as physical exercises group and Group–III as control group each group consisting of sixteen subjects. Subjects in the Group-I underwent the yogic practice, subject in the Group-II underwent the physical exercises and subjects in the Group–III did not go through any specific yogic (or) physical exercise but their regular practice. During the training period, training was given for both experimental groups, the yogic practice and physical exercises were given for twelve weeks, five days per week for forty five minutes each day in the morning session under the supervision of the investigator. The psychological variables namely somatic and cognitive anxiety. Psychological parameters were measured by standard tests namely competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyse the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analyses were computed at 0.05 level of significance. Yogic practice and physical exercises groups had shown significant changes in speed and agility when compared to control group among male cricket players. Physical exercise group are better than yogic practice on speed and agility among male cricket players.

Keywords: Yoga, physical exercise, speed and agility

Introduction
Sports psychology is the science of applying psychology to sports. It is a study of behavioral science in sports setting. Sports psychology is gradually and steadily gaining momentum in the field of training of high level sportspersons. Today, sport is no more a recreation. It is not just a game of nerves as well. With the winning margin of competitive sport narrowing down to fraction of seconds, modern day sport warrants an essential supply of psychological support to come to term with reality. (Cox et.al, 1993) [2].
Weinberg et.al. (1995) [9] wrote that in any sport, a player's success or failure results from a combination of physical and mental abilities. Most coaches consider that sport is at least fifty percent mental, with certain sports such as golf, tennis and figure skating, consistently receiving percentages in the eighty percent to ninety percent range. According to Smith (1994) [8], a former English Cricketer, "Cricket is played in the mind, more than any other game" (Manikandan & Sethu, 2017) [5].

Purpose of the study
The purpose of the study was to find out the effects of yoga practice and physical exercise on psychological variables among male cricket players.

Methodology
To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group–I as yogic practice group,

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Physiology, Nutrition and Physical Education 2019; 4(1): 1127-1129

International Journal of Physiology, Nutrition and Physical Education

ISSN: 2456-0057
IJPNPE 2019; 4(1): 1127-1129
© 2019 IJPNPE
www.journalofsports.com
Received: 03-11-2018
Accepted: 02-12-2018

Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Correspondence
Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Effect of yogic practices and physical exercise on psychological variables among male cricket players

Dr. NS Sivakumar

Abstract
To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group–I as yogic practice group, Group–II as physical exercises group and Group–III as control group each group consisting of sixteen subjects. Subjects in the Group-I underwent the yogic practice, subject in the Group-II underwent the physical exercises and subjects in the Group–III did not go through any specific yogic (or) physical exercise but their regular practice. During the training period, training was given for both experimental groups, the yogic practice and physical exercises were given for twelve weeks, five days per week for forty five minutes each day in the morning session under the supervision of the investigator. The psychological variables namely somatic and cognitive anxiety. Psychological parameters were measured by standard tests namely competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyse the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analyses were computed at 0.05 level of significance. Yogic practice and physical exercises groups had shown significant changes in speed and agility when compared to control group among male cricket players. Physical exercise group are better than yogic practice on speed and agility among male cricket players.

Keywords: Yoga, physical exercise, speed and agility

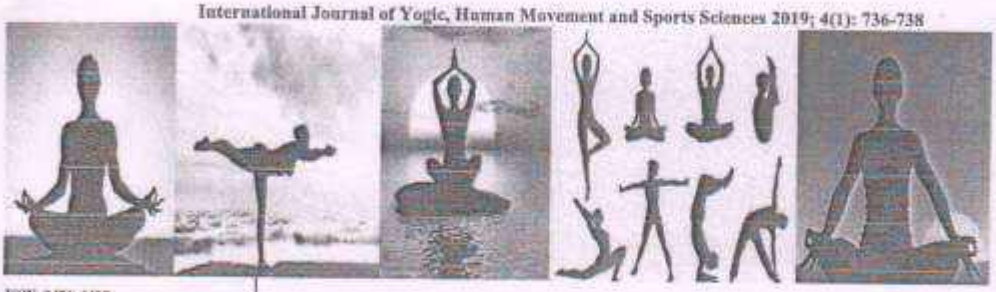
Introduction
Sports psychology is the science of applying psychology to sports. It is a study of behavioral science in sports setting. Sports psychology is gradually and steadily gaining momentum in the field of training of high level sportspersons. Today, sport is no more a recreation. It is not just a game of nerves as well. With the winning margin of competitive sport narrowing down to fraction of seconds, modern day sport warrants an essential supply of psychological support to come to term with reality. (Cox et.al, 1993) [2].
Weinberg et.al. (1995) [5] wrote that in any sport, a player's success or failure results from a combination of physical and mental abilities. Most coaches consider that sport is at least fifty percent mental, with certain sports such as golf, tennis and figure skating, consistently receiving percentages in the eighty percent to ninety percent range. According to Smith (1994) [6], a former English Cricketer, "Cricket is played in the mind, more than any other game" (Manikandan & Sethu, 2017) [3].

Purpose of the study
The purpose of the study was to find out the effects of yoga practice and physical exercise on psychological variables among male cricket players.

Methodology
To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group–I as yogic practice group,

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Yogic, Human Movement and Sports Sciences 2019; 4(1): 736-738



ISSN: 2456-4419
Impact Factor: (RJIF): 5.18
Yoga 2019; 4(1): 736-738
© 2019 Yoga
www.theyogicjournal.com
Received: 15-11-2018
Accepted: 16-12-2018

Major Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Correspondence
Major Dr. NS Sivakumar
Associate Professor and Head, Department of Physical Education, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Effect of yogic practices and physical exercise on speed and agility among male cricket players

Major Dr. NS Sivakumar

Abstract
The purpose of the study was to find out the effects of yoga practice and physical exercise on speed and agility among male cricket players. To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups and named Group–I as yogic practice group, Group–II as physical exercises group and Group–III as control group each group consisting of sixteen subjects. Subjects in the Group-I underwent the yogic practice, subject in the Group-II underwent the physical exercises and subjects in the Group–III did not go through any specific yogic (or) physical exercise but their regular practice. During the training period, training was given for both experimental groups, the yogic practice and physical exercises were given for twelve weeks, five days per week for forty five minutes each day in the morning session under the supervision of the investigator. The physical variables namely speed and agility. Physical parameters were measured by standard tests namely fifty meters run, shuttle run. The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyse the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analyses were computed at 0.05 level of significance. Yogic practice and physical exercises groups had shown significant changes in speed and agility when compared to control group among male cricket players. Physical exercise group are better than yogic practice on speed and agility among male cricket players.

Keywords: Yoga, physical exercise, speed and agility

Introduction
Today the game of cricket is widely played in three formats. The test match, fifty overs one day international and twenty-20 (T-20). The game of cricket is a high energy team sport. It is attractive and at the same time very agile. Performance in cricket is determined by several factors like skill, technique, fitness, and training.

Yoga is a complete system of physical, mental, social and spiritual development. For generations, this philosophy was passed on from the master-teacher to the student. The first written records of the practice of yoga appeared around 200 B.C. in yogasutra of Patanjali. The system consisted of the eightfold path or Asthanga yoga (Manikandan & Sethu 2017) [2].

Yoga has contributed a lot in various sports and games which was documented in various studies. Cricket is a long duration game. It consumes more time both limited overs match and test matches. This period requires complete concentration on the part of the players. Development of concentration, self-confidence and patience could be done effectively through regular practice of yoga. There are certain specific asana which contribute towards the building of personality both physical and mental. The role of yoga in the improvement of batting skill is vital. Yoga helps the player in observing the delivery of the ball and hit with promptness. Eye and hand co-ordination come forth simultaneously.

Physical exercises are an orderly or systematic movement of body parts with or without equipments with an objective to better performance. Generally exercises are focused on improving the motor qualities, rhythm etcetera and most of the exercises are repeated to get perfection. Exercise from the practical point of view may be formulated as "any bodily exertion for the sake of keeping the organs and their functions in a healthy state" (Karambelkar, 1971) [2].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Physics

Complinnce Engineering Journal

ISSN NO: 0898-3577

Third Order Nonlinear Property of L-Arginine Potassium Iodide Crystal

M. Kandasamy[1], G. Kanagan[2], G. Govindarajan[2], S. Pari[2*] R. Sambasivam[3]

[1]Department of Physics, Govt. Arts College, Ariyalur -621 713
[2]Department of Physics, National College (Autonomous), Triuchirappalli -620 001
[3]Department of Physics, Urumu Dhanalakshmi College, Triuchirappalli-620 019

[*]Corresponding Author: sparimyur@gmail.com

Abstract:

A novel semiorganic NLO material viz, L-arginine potassium iodide has been synthesized by slow evaporation technique. Single crystals X-ray diffraction shows that the material crystallizes in monoclinic structure with the non centrosymmetric space group $P2_1$. The thermal stable behaviour of grown crystals has been investigated by TG/DTG analyser. SHG studies for the sample were carried away. Third order nonlinear parameter such as nonlinear absorption coefficient, nonlinear refractive index and nonlinear susceptibility of LAPI crystal were determined by Z-scan technique.

Keywords:

Solution growth, L-arginine complex, XRD, SHG, TG-DTG, Z-scan techniques

1. Introduction

Semiorganic compound crystals have a lot of NLO applications like tera hertz wave generation, frequency conversion, electro-optic light modulation, optical computing, optical communication and deflectors in optically operated fibres. The semiorganic single crystals have the properties of both organic and inorganic materials. Many amino acids contain protonated amino group and a deprotonated carboxylic group [1-3]. There are more than 20 genetically encoded amino acids found in proteins. The crystal structure of arginine has not been completely solved. From the literature survey, it is noticed that the crystal structures of L-arginine dihydrate, DL-arginine monohydrate and DL-arginine dihydrate have been reported [4-7]. A semiorganic NLO crystal viz., L-arginine hydrochloride has been grown and the physical properties such as thermal expansion, elastic properties and dielectric characteristics were studied [8, 9]. In this work, single crystals of L-arginine potassium iodide were grown by solution method and the grown crystals were subjected to various studies like XRD studies, TG-DTG, Z-scan techniques, SHG studies etc and the obtained results were analyzed and reported in this article.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

© 2019 IJRAR May 2019, Volume 6, Issue 2 www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

Studies towards the development of La_2O_3 doped (1-x) $Bi_{0.5}(Na_{0.84}K_{0.16})_{0.5}TiO_3$ - $xSrTiO_3$ for the application of Energy storage capacitors

M. Antony Lilly Grace[1], R. Sambasivam[2].

[1]Department of Physics, CMR Institute of Technology, Bangalore 560037, India.
[2]PG& Research Department of Physics, Urumu Dhanalakshmi College, Tiruchiroppalli 620 019, India.

Abstract :

In recent years, the studies and development of new materials for energy storage application are very much needed. Hence we synthesis and studied the different Lanthanum dioxide doped (La_2O_3 doped BNKT-ST) (1-x) $Bi_{0.5}(Na_{0.84}K_{0.16})_{0.5}TiO_3$- x $SrTiO_3$ +x wt. % La_2O_3 where x = 0.000, 0.010, 0.020 and 0.030 wt% ceramics synthesized by conventional solid state reaction method. The influence of La_2O_3 doping on the structural, electrical and energy storage properties of the BNKT-ST lead-free piezoelectric ceramics were investigated. The surface morphology of the material is observed using SEM, and reductions in grain sizes are observed with increasing lanthanum content. Excellent P-E hysteresis loops for the ceramics exhibiting a maximum at 3 kV/cm. Remanant polarization (P_r) and coercive field (E_c) exhibit an increasing, decreasing and then a subsequent increasing trend with the increase in lanthanum concentration. When the La_2O_3 doping amount is up to 0.020 wt. %, the doped samples show good performances with piezoelectric coefficient (d_{33}) measured on the poled samples exhibited a maximum of ~ 187 pC/N. The large energy storage density W (0.90 J/cm^3) and a high η (70 %) were simultaneously achieved for 0.97 BNKT-0.030ST ceramics, showed a superior energy storage performance. Therefore, BNKT-ST ceramic is a promising candidate which can used in energy storage capacitor and piezoelectric sensor applications.

Keywords - Energy storage; Ferroelectric; Ceramics; BNKT-ST; Piezoelectric.

*Corresponding author Email Id: antony.l@cmrit.ac.in

I. Introduction

Piezoelectric find application in a wide variety of technologies such as sensors, actuators, transducers and other electromechanical devices like fuel injectors and ultrasound imaging transducers. Most of the piezoelectric devices are lead-based, which have harmful effects on the environment. As a result, in recent years there is extensive research being carried out on the identification and development of lead-free piezoelectric [1-3]. There is also a great need for investigating novel lead-free materials with enhanced piezoelectric properties for various commercial and industrial applications [4-6]. BNT ($Bi_{0.5}Na_{0.5}TiO_3$) is a promising lead-free material as it has superior piezoelectric properties among the various lead-free piezoelectric ceramics. These ceramics also exhibit good ferroelectric property with high remnant polarization of Pr=38 μC/cm^2 and coercive field on the order of Ec=73kV/cm [7-9]. Due to several factors like high coercive field, high conductivity, and high leakage current, it is extremely difficult to pole pure ceramics. A plausible approach to reduce the high coercive field of BNT and then enhance its overall electromechanical properties is to produce solid solutions of BNT with other lead-free materials such as $BaTiO_3$ [10], $BiAlO_3$ [11], $KNBO_3$ [12], $BaZrO_3$ [13],

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 8 | ISSUE - 7 | APRIL - 2019

MULTI DIMENSIONAL APPROACH OF ATTACKING POVERTY IN INDIA – SOME ILLUSTRATIONS

Dr. R. Sambasivam[1] and Dr. S. Jayakumar[2]
[1]Associate Professor of Physics & Research Advisor, PG & Research Department of Physics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli , Tamilnadu.
[2] Associate Professor of Physics, RKM Vivekananda College, Mylapore, Chennai .

ABSTRACT :

India began on big-bang economic reforms Twenty five years back in 1991. It is well-known that Gross Domestic Product growth has been a lot of higher within the post-reform period. However, GDP is only one metric. Ultimately, the success of reforms depends on whether or not the well-being of individuals, particularly that of poor, increased over time. In this milieu, it was examined the impact of economic reforms on poverty and inequality. There are two conclusions on trends in poverty. The first one, shown in a World Bank study by Gaurav Datt and others, is that poverty declined by 1.36 percentage points per annum after 1991, compared to that of 0.44 share points every year before 1991. Their study shows that among different things, urban growth is the most important contributor to the rapid reduction in poverty even though rural areas showed growth in the post-reform period. The second conclusion is that within the post-reform amount, poverty declined faster in the 2000s than in the 1990s. The official estimates supported on Tendulkar committee's financial condition line shows that financial conditions declined solely 0.74 percentage points per annum during 1993-94 to 2004-05. But financial condition declined by 2.2 percentage points per annum during 2004-05 to 2011-12. Around 138 million individuals were upraised on the top of the personal income line throughout this era. This indicates the success of reforms in reducing poverty. The poverty of Scheduled Castes and Scheduled Tribes also declined faster in the 2000.

KEYWORDS : *Measurement – Poverty – Alleviation Programmes – Policies – Evaluation.*

INTRODUCTION

In India, we have had a long history of studies on measurement of poverty starting from the study of Dadabhai Naoroji (1901). The former Planning Commission was the nodal agency for the Government of India in estimating of poverty. These estimates are based on the recommendations of the committees appointed by it. A working set of the Planning Commission arranged a methodology of poverty evaluation in 1962. There has been intense debate on this methodology by the academicians, experts and policy makers over the years. The Planning Commission entrenched Task Force/Expert cluster from time to time to review the methodology.

Tendulkar Committee submitted its report in 2009. The professional Group (Tendulkar) did not construct a poverty line. It was approved by the official measured by urban poverty level of 2004-05 based on Expert Group (Lakdawala) methodology and transformed this poverty line (which is Universal Reference Period URP-consumption based) into Modified Reference Period (MRP)-consumption. Here the MRP-consumption based urban poverty line is worked out as the level of per capita consumption expenditure in the MRP consumption distribution that corresponds to the bottom 25.7 per cent of the population in 2004-05. Eradication of poverty is an important objective of development policy. Prof.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 1076-5131

AN EXPERIMENTAL AND THEORITICAL STUDY OF THE VIBRATIONAL SPECTRA AND STRUCTURE OF 2,4,6-TRIMETHYL ACETOPHENONE

S. Saravanan[1*], R. Sambasivam[2], G. Kanagan[1], S. Pari[1]

[1] Department of Physics, National College (Autonomous), Tiruchirappalli-1
[2]Department of Physics Urmu Dhanalakshmi College, Trichy

*Corresponding author: sarantry2009@gmail.com

Abstract

The experimental and theoretical study on the structures and vibrations of 2,4,6-Trimethyl Acetophenone (abbreviated as 256TMAP) are presented. The FT-IR and FT-Raman spectra of the title compound have been recorded in the region 4000−400 cm^{-1} and 3500−100 cm^{-1} respectively. The molecular structures, vibrational wavenumbers, infrared intensities and Raman activities were calculated using DFT (B3LYP) method with 6-31+G (d) basis set. The most stable conformer of 256TMAP is identified from the computational results. HOMO and LUMO energies were determined by time-dependent TD-DFT approach and Mullikan analysis on atomic charges of the title compound have been calculated.

Keywords

2,4,6-Trimethyl Acetophenone, FTIR, FT Raman, HOMO – LUMO, Mullikan's plot

Introduction

Acetophenone is one of the most aromatic carbonyls, which shows interesting photochemical properties [1, 2]. Acetophenone are compound that exhibit interesting physicochemical and biological properties. They are found in nature [3, 4] and they can also be obtained by means of diverse synthesis procedures [5, 6]. Antibacterial activity can be mentioned among its biological properties. A recent study has linked the antibacterial activity of 20 acetophenone with their structural characteristics by using electronic and topological indices [7]. On the other hand, substituted acetophenone are employed as synthesis reagents of several organic reactions. A well-known one is the condensation reaction in alkaline medium of acetophenones and benzaldehydes in the synthesis of flavonoids (chalcones, flavones and flavanones) [8, 9]. This work was based on combined solid phase infrared and Raman vibrational spectroscopy and gas phase theoretical calculation with the Density Functional Theory method. DFT approaches, especially those using hybrid functional, have evolved to a powerful and very reliable tool and been routinely used for the determination of various molecular properties. B3LYP functional has been previously shown to provide an excellent compromise between accuracy and computational efficiency of vibrational spectra for large and medium size molecule

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 1076-5131

Crystal Growth and Spectral, Mechanical, Electrical Characterization of L-Leucine Potassium Chloride Crystals

R. Sambasivam[1], G. Kanagan[2], S. Pari[2*], G.Govindharajan[2]

[1]Department of Physics, Urumu Dhanalakshmi College, Triuchirappalli-620 019
[2]Department of Physics, National College (Autonomous), Triuchirappalli -620 001

Coressponding Author- sparimyur@gmail.com

Abstract:

A novel semiorganic NLO material viz., L-Leucine potassiumChloride (LLPC) has been synthesized by slow evaporation technique. Powder X-ray diffraction shows that the material crystallizes in monoclinic structure with the non-centrosymmetric space group $P2_1$. Powder XRD technique confirms the crystallinity of the sample. The FTIR spectrum was used to identify the various functional groups present in LLPC crystal. The UV-vis-NIR transmission spectrum and PL spectrum were recorded and analysed. The microhardness tester was used to carry out mechanical property of the sample. SHG studies for the sample were carried out.

Keywords:

Solution growth, L-arginine complex, XRD, FTIR, Microhardness, Band gap

1.Introduction

Nonlinear optical materials have attracted the attention of the researchers for tailor device applications and other applications like optical switching, optical modulator, data storage device, telecommunication, optical information processing, and high-density optical disk data storage [1].In organic materials, the solid frame work of conjugated π electrons along with weak Van der Waals and hydrogen bonds play a vital role of their NLO properties [2]. Some simple organic and inorganic salts of amino acids appear to be promising materials for optical second harmonic generation [3].One of the main advantages of organic materials is that their structure can be modified to get the desired NLO properties [4]. Inorganic material like potassium dihydrogen orthophosphateremains the most widely used crystal for frequency conversion due to their modest nonlinearities[5].In solid state, amino acids exist as zwitterions as they contain a proton donor carbonyl acid group COOH and a proton acceptor NH_2 group [6] and L-leucine is one of the amino acids and its complexes are useful NLO materials. A number of complexes like

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 1076-5131

GROWTH AND SOME OPTICAL, MIROHAREDNESS, ELECTRICAL STUDIES OF L-ARGININE POTASSIUM IODIDE (LAPI) NLO CRYSTALS

G. Kanagan[1], S. Pari[1*] R. Sambasivam[2], G.Satheesh Kumar[1]

[1]Department of Physics, National College (Autonomous), Triuchirappalli -620 001
[2]Department of Physics, Urumu Dhanalakshmi College, Triuchirappalli-620 019

Corresponding Author: sparimyur@gmail.com

Abstract:

A novel semiorganic NLO material viz., L-arginine potassium iodide (LAPI) has been synthesized by slow evaporation technique. Single crystal X-ray diffraction shows that the material crystallizes in monoclinic structure with the non-centrosymmetric space group $P2_1$. Powder XRD technique confirms the crystallinity of the sample. The FTIR spectrum was used to identify the various functional groups present in LAPI crystal. The UV-vis-NIR transmission spectrum and PL spectrum were recorded and analysed. The ^1H NMR spectrum analysis. The microhardness tester was used to carry out mechanical property of the sample. SHG studies for the sample were carried out.

Keywords:

Solution growth, L-arginine complex, XRD, FTIR, UV ,^1H NMR, dielectrics, microhardness, band gap

1. Introduction

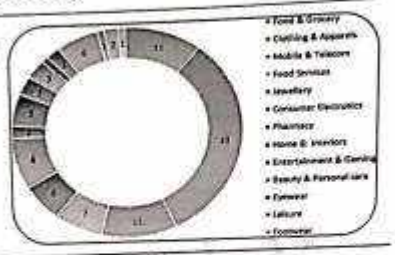
Semiorganic compound crystals have a lot of NLO applications like terahertz wave generation, frequency conversion, electro-optic light modulation, optical computing, optical communication and deflectors in optically operated fibres. The semiorganic single crystals have the properties of both organic and inorganic materials. Many amino acids contain protonated amino group and a deprotonated carboxylic group [1-3]. There are more than 20 genetically encoded amino acids found in proteins. The crystal structure of arginine has not been completely solved. From the literature survey, it is noticed that the crystal structures of L-arginine dihydrate, DL-arginine monohydrate and DL-arginine dihydrate have been reported [4-7]. A semiorganic NLO crystal viz., L-arginine hydrochloride has been grown and the physical properties such as thermal expansion, elastic properties and dielectric characteristics were studied [8, 9]. Sudeshna Mukerji et al [8, 9] have grown the crystals of L-arginine hydrochloride and L-arginine hydrobromide and the hardness properties were found. Knoop microhardness anisotropy on the cleavage plane (100) of single crystals of

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 8 | ISSUE - 7 | APRIL - 2019

SUSTAINABLE DEVELOPMENT UNDER LIBERALISATION REGIME IN INDIA – SOME MYTHS AND REALITIES

Dr. R. Sambasivam
Associate Professor of Physics & Research Advisor,
PG & Research Department of Physics,
Urumu Dhanalakshmi College, Kattur,
Tiruchirappalli , Tamilnadu.



ABSTRACT :

Economic reforms were initiated in mid-1991 because of issues like insurmountable external debt, unmanageable balance of payments circumstances, high chance of acceleration within the rate of inflation and therefore the underlying fiscal problems. The peripheral factors like the Gulf war and the disintegration of the Soviet economy have also contributed a bit to this disaster. With a view to tide over the unprecedented economic crisis and ensuring the sustainability of the growth process, it was considered necessary to introduce certain major policy reforms on industrial, trade and public sector fronts, almost simultaneously with measures of stabilization for reduction in fiscal and current account deficits. The reforms aimed at fundamental shift towards greater reliance on the market mechanism to allocate resources and influence decision making. In the initial budget speech in 1991 by the finance minister Dr. Manmohan Singh said that 'the idea of the emergence of India as a front ranking powerhouse of the world economy was an idea whose time had indeed come". Quoting Victor Hugo, he furthermore mentioned that 'no power on earth can stop an idea whose time had come'.

KEYWORDS : *Sustainability – Conditions – Economic Reforms – Impact – Measurements .*

INTRODUCTION

After the introduction of new economic reforms a span of 25 years soon since India embarked on big-bang economic reforms in 1991. Prof. Tendulkar in cooperation with Bhavani has analysed in an article titled "Understanding Economic Reforms: Post-1991 India" about the aspects that initiated the reforms since 1991. In this book, the authors shown how despite low income, regional politics, and coalition governments at the centre, these reforms enabled faster and sustained economic growth. They also mention that change in economic system has both positive and negative consequences and the choice can only be made on the basis of a judgment about the balance.

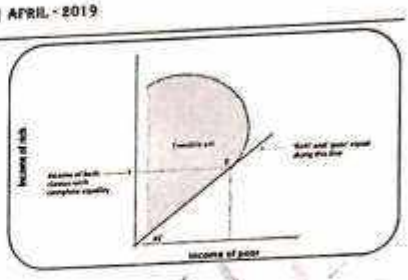
It is well acknowledged that we have moved away from 'Hindu Rate of Growth' in the last three and half decades. There is a discussion on the turning point and structural breaks in economic growth in the country. Nayyar (2006) believes that the turning point in the early 1950s was very much important than the structural break in the early 1980s. Inspite of low growth during the period 1950-1980, there were some achievements such as construction of institutional capacities, expansion of social institutions and legal framework for a market economy, precedence have been given to science and technology, establishment of capital goods sector etc. Thus, one view is that the base created during the first three decades after independence helped during the reform period since 1991.

Some argued that the turning point started in the Fifth Plan itself. Growth rate of GDP was 5% during 1974-79 period. According to this view, one of the reasons for this break could be increase in

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 8 | ISSUE - 7 | APRIL - 2019

A BIRD'S VIEW OF THE INEQUALITY OF INCOME DISTRIBUTION AMONG THE VULNERABLE SECTIONS IN INDIA – SOME EXPOSITIONS



Dr. R. Sanibasivam
Associate Professor of Physics & Research Advisor,
PG & Research Department of Physics,
Urumu Dhanalakshmi College, Kattur,
Tiruchirappalli. Tamilnadu.

ABSTRACT :

India has the potential to extend the quantity of employees in producing and also the contribution to the world to overall growth. But its future development path is unlikely to mimic that witnessed in East Asia like Japan, Taiwan or even in China. In the case of manufacturing China could improve its share considerably in GDP but not in employment. Some lessons can be learnt from East Asia. But, India has to forge its own path that will rely on both manufacturing and services as growth engines. Fourth Industrial Revolution, Digital Age and Robotics: Industrialists and others at Davos meeting said that we have to be ready to approach a fourth industrial revolution which includes advanced manufacturing, quantum engineering, 3D printing and robotics. It may lead to some disruption in the established sectors and may lead to some inequalities. But, overall net employment may rise with fourth industrial revolution including robotics.

KEYWORDS : *Social Protection – Inequalities – Income Distribution – Observations.*

INTRODUCTION

Inequality has been a crucial issue in development debates. Several philosophers and economists have discussed about inequality . In an important paper, Tendulkar (2010) draws a distinction between inequity and inequality. He examines the trail breaking work of Simon Kuznets who indicates that inequalities rise with economic process upto some extent so decline. This is therefore known as Kuznets inverted 'U' form curve. Initially economic growth increase overall inequality as the rural-urban transformation takes place and labour moves from low productivity agriculture to high productivity urban industrial and service sector activities. Tendulkar says that notwithstanding measured difference will increase, there may not be increasing feeling of inequity as people observe high mobility and can aspire to move upwards like others. In this context, he also reviews the work of economists like Tibor Scitovsy and Albert O.Hirshman who have also discussed with the general issue of inequality not leading to inequity. According to Tendulkar, social consensus with respect to social acceptability of a degree of inequality is feasible on the existence of three conditions: (a) the observation of merit based income mobility; (b) the existence of equality of opportunity; (c) improvement within the living conditions of individuals at the lower finish of distribution. He conjointly says that we tend to do got to be aware concerning perceived fairness, equality of chance, the supply of basic desires, and economic alleviation.

With the release of the book entitled "Capital in the Twenty-First Century" by French economist Thomas Piketty (2014), there has been debate on inequality in several parts of the world. The main merit of the book is the massive collection of historical data for several countries. In the eighteenth and

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH

IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X

VOLUME - 8 | ISSUE - 8 | MARCH - 2019

A PANORAMIC VIEW OF INDIA'S DEVELOPMENT STRATEGY UNDER GLOBALIZATION REGIME

Dr. R. Sambasivam
Associate Professor of Physics & Research Advisor,
Urumu Dhanalakshmi College, Kattur, Tiruchirappalli. Tamilnadu.

ABSTRACT :

Globalization will promote direct foreign investment and, thus, it enables developing countries to raise capital without recourse to international indebtedness. Globalization enables developing countries to make use of technology developed by advanced countries without investments in Research and Development. Globalization widens the access of developing countries to export their produce in the developed countries. Simultaneously, it enables the consumers of developing countries to obtain quality consumer goods, especially consumer durables, at relatively much lower prices. Globalization introduces faster diffusion of knowledge and thus enables developing countries to raise their level of production and productivity. It, therefore, generates the momentum to reach international standards of productivity. Globalization reduces costs of transport and communication. It also reduces tariffs and thus enlarges the share of foreign trade as a percentage of GDP.

KEYWORDS : *Globalisation – Development Path – Strategies – Targets - Achievements.*

INTRODUCTION

India faces a twin challenge—demographic dividend and quick technological amendment. Technological progress is putting a higher premium on skills, and any failure of states to lay the groundwork for Indians to lead productive lives will not only carry high cost, it additionally generated more inequality and conflict. In most countries, children born to more modern parents start having acquiring to better opportunities early in life, and these cause to lifelong advantages, whereas children born to poorer parents miss out on these opportunities. If policy makers build additional effort to form early childhood development strategies universal, financial difference would fall.

Technology is currently the most important sector of the world economy, eclipsing even financial services, and includes five of the top 20 public ventures by capitalization. Spillovers and externalities related to the Fourth Industrial Revolution are worldwide in nature and call for universal coordination additionally as national level interventions. Late comers to developments can better manage trade-offs between economic growth and environmental degradation, thanks to technological progress that can increase both economic growth and better management of resource. Scaling up investments in human capital to encourage growth and hinders digital divide is an easy call for the policy makers.

Twenty Years of Globalization: Poverty, Hunger, Unemployment and Corruption Government of India adopted new economic policy (NEP) in 1991. They termed this policy as a policy of liberalization, privatization and globalization (LPG). Though new economic policy claimed to be the policy of LPG (liberalisation,Privatisation and Globalisation) but in essence this policy was mainly the policy of

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH

IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X

VOLUME - 8 | ISSUE - 6 | MARCH - 2019

LIBERALISATION IS A BAN OR BOON TO INDIAN PEASANTS – SOME THEORETICAL CONSIDERATIONS

Dr. R. Sambasivam
Associate Professor of Physics & Research Advisor,
Urumu Dhanalakshmi College, Kattur, Tiruchirappalli. Tamilnadu.

ABSTRACT :

Impact of globalization on the conditions of poor, peasants in India in recent times have been drastically changes not only in the socio economic conditions but also it created awareness and significant technological changes in the agricultural production by the latest methods and means of production practices. What type of changes has been occurred in their living conditions have been analyzed in detail by the researcher by the proposed research to be taken in India. The researcher tries to bring out and portray the real conditions among their living pattern not to be dealt in detail. The liberalisation for Indian economy was adopted by India in 1991. Facing a cruel economic calamity, India move toward the IMF for a loan, and the IMF granted what is called a 'structural adjustment' loan, which is a loan by means of some conditions affixed which are related to a structural change in the economy. The government steered in a new era of economic reforms based on these conditions. Globalisation has different aspects. Duncan (2000) defines globalisation as the process of closer economic integration between countries in terms of trade in goods and services, in investment, in the free movement of labour, in the adoption of common currencies, and in joint international action on cross-border issues such as pollution. World Bank (2000) summarises globalisation as the global circulation of goods, services and capital, information, ideas and people.

KEYWORDS : *New Economic Policy – Causes – Consequences – Remedial Measures.*

INTRODUCTION

The process of globalization provides *a golden opportunity* to contribute for human being to a major reduction of poverty world-wide. While the potential for poverty reduction is great, the extent of it will depend on many factors including, in particular, the pattern of growth followed by the developed and developing countries and the overall global policy framework. The real distribution of gains is fair and whether the poor advantage less than the balanced from globalization and could under some circumstances actually be harm by it. The risks and costs brought about by globalization can be significant for fragile developing economies and the world's poor. The disadvantage of globalization is most dramatically epitomized at the times of periodical global financial and economic crises. The rate of the repeated crises associated with economic and financial globalization appear to have been borne devastatingly by the developing globe, and often unbalanced so by the poor who are the most in danger. Besides, advantages from globalization in booming instances are not necessarily shared broadly and identically in the global community.

The fear that the poor have in some instances been by-passed or actually hurt by globalization was highlighted by recent studies which point towards limited if not a lack of union among participating

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Compliance Engineering Journal

ISSN NO: 0898-3577

CRYSTAL GROWTH, ELECTRICAL, MECHANICAL, OPTICAL AND THERMAL PROPERTIES OF SEMI ORGANIC NLO ACTIVE L-THREONINE POTASSIUM IODIDE CRYSTAL

G. Kanagan[1], S.Kumaresan[1], S.Murugannantham[1], M. Kandasamy[2], G. Govindarajan[1], S. Pari[1*], R. Sambasivam[3]

[1]Department of Physics, National College (Autonomous), Triuchirappalli
[2]Department of Physics, Govt. Arts College, Ariyalur
[3]Department of Physics, Urumu Dhanalakshmi College, Triuchirappalli

*Corresponding Author: sparimyur@gmail.com

Abstract:

A novel semi-organic NLO material L-Threonine Potassium Iodide (LTPI) has been synthesized by slow evaporation method. Single X-ray diffraction study shows that the grown crystal is orthorhombic structure with the noncentro symmetry space group $P2_12_12_1$. Powders XRD are also studied from which the sharp peak crystalline nature and hkl plane was identified. The FT-IR spectra are carried out for reveals various functional groups in the crystal have been derived.UV-vis-NIR studying has been performed within 200-1100 nm to determine the optical transparency of the grown LTPI crystal. The fluorescence spectra studies recorded of wavelength 300-700 nm and colour of emission, region reported. The molecular structure of grown LTPI crystal was verified by ^{1}H NMR analysis. The micro hardness test was carried out to mechanical property and from the results strength with stiffness constant characteristics evaluated. The dielectric constant and dielectric loss of LTPI crystal was carried out as a function of frequency and the obtained result are discussed. Thermo gravimetric TG and differential thermo gravimetric DTG studies were carried out to analyse the thermal stability of LTPI Crystal. Second harmonic generation efficiency of the grown sample was evaluating by Kurtz-Perry method, which yield an efficiency of 1.4 times better than KDP.

Keywords

Crystal growth, L-Threonine Potassium Iodide crystal, XRD, FT-IR, UV-vis-NIR, FL, Dielectric, micro hardness, TG/DTG, ^{1}H NMR, SHG, Z- scan studies.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH

IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X

VOLUME - 8 | ISSUE - 6 | MARCH - 2019

INDIA'S INTERNATIONAL RECOGNITION THROUGH NEW BUSINESS POLICIES – SOME EXPOSITION

Dr. R. Sambasivam
Associate Professor of Physics & Research Advisor,
Urumu Dhanalakshmi College, Kattur, Tiruchirappalli. Tamilnadu.

ABSTRACT :

This paper elaborately discussed the way in which of attaining effects of globalization in India and its different spheres in detail. Globalization is a major factor in this competitive world that integrates and mobilizes cultural values of people at global level. In the age of rapid technical sequence, so many countries are incorporated and converted due to the process of globalization. Globalization has a vast impact on cultural, social, monetary, political, and communal life of countries. Plentiful theoretical studies expressed that globalization mediates in a cultural life of general public that raises numerous significant issues (Robertson, 1992). In broad the term 'globalization' means permutation of economy and society throughout the cross country flows of information, plans, knowledge, goods, services, assets, funding and people. Globalization has been described by philosophers as the process through which the society and economy are put together through cross border streams of ideas, communication, technology, capital, people, finance, goods, services and information. The author tries to portray the real impact of globalization in the society in India and how far it helps to activate sustainability and faster growth rate in India under the regime of globalised milleau.

KEYWORDS : *Globalisation – Factors – Impact – Measurements – Sustainability – Growth.*

INTRODUCTION

Globalisation has been defined as the process of rapid integration of countries and happenings through greater foreign trade and foreign investment. The process of international integration arising from the interchange of world views, products, ideas and other aspects of culture is globalisation. The idea of globalization means that the globe is getting smaller as well as bigger. Akteruzzaman.Md, 2006 describes that globalisation can supply to increase model of cross border activities of firms, involving international investment, trade and strategic alliances for product development, production, sourcing and marketing. These worldwide activities of companies to enter into new markets, to abuse their technological and organizational improvements and to decrease business costs and risks. Other philosophers states that globalization is a social incident that defines the environmental frontier in terms of many different issues. According to Brinkman, 2002, globalization is an accomplishment of light, as the penetration of capitalism into every area of the world, bringing it to participate with the possibility of all of the world's population in the fruits of the international distribution of labour and market economy. ALI, 2015 explains that the globalization as a process of quick economic, cultural, and institutional integration amongst countries. The mentioned relationship between them drives the liberalization of trade, investment and capital flow, technological advances, and pressures for assimilation towards international quality. Globalization has been reduced obstacles between the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 8 | ISSUE - 7 | APRIL - 2019

THE OTHER SIDE OF DEMONETISATION IN INDIA – SOME FACTS AND FIGURES

Dr. R. Sambasivam
Associate Professor of Physics & Research Advisor,
PG & Research Department of Physics,
Urumu Dhanalakshmi College, Kattur,
Tiruchirappalli. Tamilnadu.

ABSTRACT :

Indian government has taken a daring call on note ban on 08/11/2016. Central government was a considered, well-thought out and well-implemented step, and whether or not it would very eradicate all the present black cash. Here I have utilized the opinions of great expert on economics, financial economist and intellectual politicians. This study will help us to know about the positive and negative impact of note ban decision taken by Indian government. This study is purely based on secondary data, which is collected from news papers, magazines, websites from internet, some useful books related to topic etc.

KEYWORDS : *Demonetization – Causes – Consequences – Impediments – Achievements.*

INTRODUCTION

Demonetization is that the act of adjusting the exsisting currency in another kind. The old units should be retired and replaced by new currency. In other words demonetization means either introducing new notes or coins of the same currency or fully replacing the old currency with new currency. There is an one important thing exist on economics, which is demonetization, in which forms of payment is restored as legal tender. There are so many reasons, why governments demonetized their nation's currency. Some reasons area units like resisting inflation, resist corruption, and discourage a money system within the country. In November 2016, The Indian government has taken a bold step to demonetize the 500 and 1000 Rs (fully ban). Currency notes, these two biggest denominated notes accounted 80% of the currency supply. The government's main objectives of note ban is, to eradicate counterfeit currency, resist tax evasion, destroy the black money, and terrorist financing activities, and to encourage the country towards the cashless economy. This decision taken by government is for welfare of the nation, but so many questions comes in mind that, would note ban decision actually eradicate the black money, if does then at what extent black money will come out. What should be the impact of this decision on Indian economy? Would Indian economy be prosperous or would be poor.

OBJECTIVES OF THE STUDY:

1) To know about actual present outcomes of the note banned decision.
2) To know the potential of the note ban conclusion.
3) To estimate the cost for future of the note ban pronouncement.
4) To know the impact of note ban decision on the Indian economy.

Demonetisation hit India's economic activity within the amount following November 8, 2016, event however the impact had dissipated by the summer of 2017, same a operating paper by the US-based National Bureau of Economic Research. "Our results imply demonetisation down the expansion

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of ChemTech Research
CODEN (USA): IJCRGG ISSN: 0974-4290
Vol.7, No.2, pp 786-789, 2014-2015

ICONN 2015 [4th -6th Feb 2015]
International Conference on Nanoscience and Nanotechnology-2015
SRM University, Chennai, India

Characterization of Nanogel for Transdermal Drug Delivery System

G. Aarthi[1], Anusuya. T[2], Amy Magdalene Paul[2], Pandiyarasan V[3]

[1]Department of Nanotechnology, SRM University, Kattankulathur, TamilNadu, India 603 203
[2]Department of Nanotechnology, SRM University, Kattankulathur, kancheepuram, TamilNadu, India 603 203
[3]Research Institute of Electronics, Shizuoka University, 3-5-1 Johoku, Naka-ku, Hamamatsu, Shizuoka-432-8011, Japan

Abstract : Transdermal drug delivery system is an alternative to conventional drug delivery methods such as oral delivery of drugs and is poised to provide an alternative to hypodermic injection. It is designed to deliver a therapeutically effective amount of drug across a patient's skin. In recent years the use of nanogel have been increased enormously in biomedical due to its advantageous properties such as biocompatibility, bioavailability, degradability, ability to load drug in nanogel and high stability in aqueous solution makes them more attractive in transdermal drug delivery. PVA/1-vinylimidazole complex nanogel is synthesized by polymerization of PVA nanoparticles with vinylimidazole monomer in the presence of MBA, TEMED and KPS as cross-linking agent and initiator. The SEM image shows the size and morphology of the nanogel. The swelling behaviour and the batch/in-vitro studies will be conducted for the trans-dermal drug delivery application.

Introduction

Nanogel can be termed as dispersion of hydrogel by physical and chemical cross-linking polymer at nanoscale size[1]. Nanogel has ability to control size, composition depending upon the application. Nanogel also has unique properties such as biocompatibility, bioavailability, degradability, ability to trap a large amount of water[2]. Polymeric nanogel has been used as a carrier for gene delivery such as oligonucleotide and DNA[3]. Nanogel is used to study the isolation of bacteria and fungi from aquatic environment[4]. Nanogel is also used as protection efficiency for mid steel in HCL as cathodic inhibitor in corrosion[5]. Nanogel can be used as additives in various applications such as paint, cosmetics, medical and etc. Nanogel is used to load drugs and followed by stimuli-sensitive, multi-responsive, magnetic and targeted drug delivery application and also in bioimaging[2].

The main aim of this work is to synthesis and analyse the nanogel sample in two different concentration using SEM chacaertization technique. Further the in-vitro studies of nanogel behaviour in trans-dermal drug delivery application are discussed. Transdermal drug delivery is the way of application of medications to the skin to ease ailments is a practice that has been utilized by humankind over the millennia and has included the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Emerging Technology and Advanced Engineering
Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 3, Issue 8, August 2013)

Detection of Melamine Using IB Group Metallic Nanoparticles

Amy Magdalene Paul[1], Drithin Chakravarthy[2], Thanuja V.[3]
[1]Assistant Professor, Department of Nanotechnology, SRM University, Kattonkulathur, Chennai.
[2,3] Department of Nanotechnology SRM University

Abstract— Melamine is an organic base and a trimer of cyanamide, with a 1,3,5-triazine skeleton. Excess quantity of melamine when consumed leads to kidney and renal failure. It eventually damages the organs of the body and leads to death. Hence it is necessary to detect melamine in early stage. Conventional techniques are expensive, time-consuming and cumbersome. Nanotechnology comes to the rescue in this regard. Metallic nanoparticles of IB group elements detect melamine at exponentially lower cost with fast detection. Gold nanoparticles are highly instrumental in detection of melamine. The expenses can be reduced even further by using silver and copper nanoparticles. Colorimetric properties indicate the presence of melamine. Change in the color of the metallic nanoparticle solution indicates the presence of melamine in the respective solvent. This process of detection of low concentration of melamine using IB group metallic nanoparticles of Gold, Silver and Copper can be immobilised in a Lab-on-a-chip device.

Keywords—Melamine , AuNP , AgNP , CuNP , Lab on chip

I. Introduction

Melamine is an organic base and a trimer of cyanamide, with a 1,3,5-triazine skeleton. Like cyanamide, it contains 67% nitrogen by mass and, if mixed with resins, has fire retardant properties due to its release of nitrogen gas when burned or charred, and has several other industrial uses. Melamine is also a metabolite of cyromazine, a pesticide. It is formed in the body of mammals that have ingested cyromazine. It has been reported that cyromazine can also be converted to melamine in plants. Melamine combines with cyanuric acid and related compounds to form melamine cyanurate and related crystal structures, which have been implicated as contaminants or biomarkers in disease protein adulterations.

Figure 1.1

Melamine is combined with formaldehyde to produce melamine resin, a very durable thermosetting plastic used in Formica, melamine dinnerware, laminate flooring and dry erase boards. Melamine foam is used as insulation, soundproofing material and in polymeric cleaning products such as Magic Eraser.

Melamine is one of the major components in Pigment Yellow 150, a colorant in inks and plastics. Melamine is involved in the fabrication of melamine poly-sulfonate used as superplasticizer for making high-resistance concrete. Sulfonated melamine formaldehyde (SMF) is a polymer used as cement admixture to reduce the water content in concrete while increasing the fluidity and the workability of the mix during its handling and pouring. It results in concrete with a lower porosity and a higher mechanical strength, exhibiting an improved resistance to aggressive environments and a longer life-time.

The use of melamine as fertilizer for crops had been envisaged during the 1950s and 1960s because of its high nitrogen content (2/3). However, melamine is much more expensive to produce than are other common nitrogen fertilizers, such as urea. To be effective as a fertilizer, it is essential that the plant nutrients are released or made available in a manner that matches the needs of the growing crop. The nitrogen mineralization process for melamine is extremely slow, making this product both economically and scientifically impractical for use as a fertilizer. Melamine dinnerware, Melamine and its salts are used as fire-retardant additives in paints, plastics, and paper. Melamine derivatives of arsenical drugs are potentially important in the treatment of African trypanosomiasis. Melamine use as non-protein nitrogen (NPN) for cattle was described in a 1958 patent. In 1978, however, a study concluded that melamine "may not be an acceptable non-protein N source for ruminants" because its hydrolysis in cattle is slower and less complete than other nitrogen sources such as cottonseed meal and urea.

Melamine is sometimes illegally added to food products in order to increase the apparent protein content. Standard tests, such as the Kjeldahl and Dumas tests, estimate protein levels by measuring the nitrogen content, so they can be misled by adding nitrogen-rich compounds such as melamine.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Advance Research, IJOAR .org
Volume 5, Issue 5, May 2017, Online: ISSN 2320-9097

SPERCTROSCOPIC, ELECTRONIC STRUCTURE AND HOMO LUMO ANALSIS OF 4-BROMO-2-FLUORO-1-NITROBENZENE

R Sangeetha [1], S.Seshadri [2], Rasheed.M.P [2]

[1] Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19, Tamilnadu, India)
[2] Associate Professor and Head, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19,Tamilnadu, India)
[3] Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19, Tamilnadu, India)

ABSTRACT

The paper deals with the combined experimental and theoretical study on molecular structure, vibrational spectra of 4B2F1NB. The FTIR solid phase (4000-400cm^{-1}) and FT-Raman spectra (3500-50cm^{-1}) of 4B2F1NB was recorded. The optimized geometry, frequency and intensity of vibrational bands of 4B2F1NB have been acquired by DFT levels of theory with complete relaxation in the potential energy surface using 6-311++G(d,p) basis set. A complete vibrational assignment aided by the theoretical harmonic frequency analysis has been proposed .The harmonic vibrational frequencies were calculated and scaled values have been compared with experimental FTIR and FT-Raman spectra. The observed and calculated frequencies are in good agreement. A Detailed elucidation of IR and Raman spectra of 4B2F1NB is additionally provided details regarding the premise of total energy distribution (TED) .The molecular electrostatic potential are done and the computed Homo and Lumo analysis demonstrates that charge transfer happens within the molecule. The isotropical chemical shifts for ^{1}H and ^{13}C NMR molecules were figured utilizing GIAO approach by applying B3LYP/6-311++G(d,p) technique. The UV-Visible range of this specimen utilizing TD-DFT approach is done. Additionally, the Mulliken charges and the thermodynamic properties of the each atom have been figured.

KeyWords
4B2F1NB, DFT, TD-DFT, FT-IR,FT Raman, HOMO, LUMO.

Corresponding author SANGEETHA R e mail heresangu@gmail.com Mob 9787561951

IJOAR© 2017
http://www.ijoar.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Int. J. Pharm. Sci. Rev. Res., 35(2), November – December 2015; Article No. 32, Pages: 173-177 ISSN 0976 – 044X

Research Article

Synthesis and Characterization of Silver Nanoparticles Using *Persea americana* (Avocado) and its Anti-inflammatory Effects on Human Blood Cells

P.Anitha[1], *P.Sakthivel[2]

[1]Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, TamilNadu, India.
[2]Associate Professor, Department of Physics, Urumu Dhanalakshmi College (Autonomous), Trichy, TamilNadu, India.
*Corresponding author's E-mail: anithesa2013@gmail.com

Accepted on: 27-10-2015; Finalized on: 30-11-2015.

ABSTRACT

Green Synthesis and characterization of nanoparticles is under exploration due to its wide medical applications and various research interests in nanotechnology. In the current study, the plant extract of Persea Americana (Avocado)(Family-Lauraceae) is used for the synthesis of silver nanoparticles (AgNPs). This study investigates an efficient and sustainable route of AgNPs preparation from 1 mM aqueous $AgNO_3$ using leaf extracts. The complete reduction of silver ions was observed after 12 hrs of reaction at 40°C under shaking condition. The colour changes in reaction mixture (pale yellow to dark brown colour) was observed during the incubation period, because of the formation of silver nanoparticles (AgNPs) in the reaction mixture enables to produce particular colour due to their specific properties (Surface Plasmon Resonance). The formation of silver nanoparticles was confirmed by UV-Visible spectroscopy, Fourier Transform Infra-Red (FT-IR) spectroscopy analysis, X-Ray Diffraction (XRD) pattern, Transmission electron microscopy (TEM). The results showed that the leaf extract is optimum for the synthesis of silver nanoparticles and it is also known to have the ability to inhibit the growth of various pathogenic microorganisms. The average size of synthesized silver nanoparticles is found to be 27.42 nm using XRD data by Scherrer's formula, which is approximately similar as the size obtained in TEM Analysis (27.58nm). In total, the AgNPs prepared are safe to be discharged in the environment and possibly utilized in processes of pollution remediation. AgNPs may also be efficiently utilized in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study.

Keywords: Silver Nitrate, Nanoparticles, UV, FT-IR, XRD, TEM, Anti-inflammatory activity, Persea americana leaf extract, etc.

INTRODUCTION

Nanoparticles are being viewed as fundamental building blocks of nanotechnology. An important aspect of nanotechnology concerns the development of experimental processes for the synthesis of nanoparticles of different sizes, shape and controlled dispersity. With the development of new chemical or physical methods, the concern for environmental contaminations are also heightened as the chemical procedures involved in the synthesis of nanoparticles, generate a large amount of hazardous byproducts. Thus, there is a need for green method that includes a clean, non-toxic and environment friendly method of nanoparticles synthesis.[1] As a result, researchers in the field of nanoparticles synthesis and assembly have turned to biological system of inspiration.[2] Biosynthetic processes for nanoparticles would be more useful if nanoparticles were produced extra celluarly using plants or their extracts in a controlled manner according to their size, shape and dispersity.[3] The aqueous silver nitrate solution, after reacting with geranium leaf extract, led to rapid formation of highly stable, crystalline silver nanoparticles (16 to 40 nm).[4]

Various approaches available for the synthesis of silver NPs include chemical[5], electrochemical[6], radiation[7], photochemical methods[8] and Langmuir-Blodget[9,10] and biological techniques.[11] Here we have developed a rapid, eco-friendly and convenient green method for the synthesis of silver nanoparticles from silver nitrate using leaf extracts of three Indian medicinal, namely (black tulsi), by microwave radiation method. In this research, the plant mediated synthesized AgNPs were characterized and studied in details with all of their properties significant to current science and prevailing technologies. Therefore the objective of this present study was to synthesis and characterizes the biologically active nanoparticles from the leaf extracts of Persea americana.

MATERIALS AND METHODS

Collection of leaf

Fresh leaf of Persea americana were collected from Salem, during the month of May and identified by Dr. John Britto, The Director, Rabinat Herbarium and Center for Molecular Systematics, St. Joseph's College (Campus), Trichirappalli-2, Tamilnadu, India.

(Plant authentication no: PN009)

Preparation of leaf extract

The fresh and young leaf samples of Persea americana was collected, washed thoroughly with sterile double distilled water (DDW). Twenty gram of sterilized leaf samples were taken and cut into small pieces. Finely cut leaves were placed in a 500 ml Erlenmeyer flask containing 100 ml of sterile DDW. After that the mixture was boiled for 5mins and filtered. The extract was stored in 4 °C.

© Copyright protected. Unauthorized republication, reproduction, distribution, dissemination and copying of this document in whole or in part is strictly prohibited.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJITE INTERNATIONAL JOURNAL OF INNOVATIVE TRENDS IN ENGINEERING (IJITE) ISSN: 2395-2946
VOLUME 16, NUMBER 01, 2016

Synthesis And Characterization of Hydroxyapatite With Pmma and Dextran Nano Composites

K. Senthilarasan[1], P. Sakthivel* and A. Ragu[2]

*1,2Department of physics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India 620019

Abstract - Hydroxyapatite with PMMA and Dextran (HPD) nanocomposites are important biocompatible materials and were successfully synthesized by a wet chemical method. The crystal structure and morphology of the synthesized composite were analyzed by X-ray diffraction, Fourier transforms infrared spectroscopy, transmission electron microscope, and thermal behavior. Single phase HAp/PMMA-Dextran nano composite with a crystallite size was obtained. Additionally, antibacterial activity and the anti-inflammatory test was examined. Finally, the obtained results indicated that the HAp/PMMA-Dextran nano composite composite possesses excellent property in gram-negative bacteria.

Key words: Hydroxyapatite, PMMA, Dextran, XRD.

I. INTRODUCTION

Hydroxyapatite (HAp) is the main inorganic mineral constituent of bones and teeth which belong to the family of "apatites".[1] Apatites belong to the family of calcium phosphate and are represented by the general formula $Me_{10}(XO_4)_6$ Y_2. The Me atoms stand for divalent cations(Ca,Ba,Pb) suitable for substitution by monovalent (Na,Rb,Cs) or trivalent (Al,Nd,La) cations, while the XO_4 groups is a trivalent anion (PO_4^{3-}, VO_4^{3-}) able to be substituted by tetravalent or divalent groups (SiO_4^{4-}, GeO_4^{4-} or SO_4^{2-}, CO_3^{2-}, HPO_4^{2-}, respectively). The charge is balanced by monovalent anions Y such as F^-(Fluroapatite,FAp), Cl^-(chlor apatite), OH^- (HAp).[2] Hydroxyapatite [Ca_{10} $(PO_4)_6(OH)_2$] the most stable phase of calcium phosphate is structurally similar to the mineral component of bones.[3] This property is widely used in medicine for biomaterials that are either entirely made of or coated with calcium phosphate. Clinically, there is a high demand for synthetic materials that mimic the chemical composition of natural hard tissue, as autologous bone is available only in limited amounts.[4] HAp has many bone replacement application and is used for repairing bone defects in dental and orthopaedic sites, immediate tooth replacement, augmentation of alveolar ridge, pulp capping material and maxillafacial reconstruction, etc.[5] It is used in various forms like powders, foam, granules, dense and porous blocks, coating on metallic substrates, composite, cement etc.[6]

Polymethyl methacrylate (PMMA) is widely used as a bone cement to secure orthopedic implants to the skeleton.[7] Because if its limited mechanical properties and poor compatibility with bone, the clinical use of this cement are accompanied by complications. Several investigators have studied HAp-reinforced PMMA as a potential bone cement.[8,9] Dextran is a natural polymer of glucose linked glucopyranoside and some branching of 1,3 linked side chains. Dextran has been used as a mode of drug delivery due its characteristics such as water solubility, biocompatibility, and biodegradability. It is a potential polysaccharide polymer that can sustain the delivery of proteins, vaccines and drug.

Hydroxyapatite –reinforced polymer composite are an instance of these materials that can be used as bone cement, filling bone defects, a coating of joint replacement prosthesis and dental implants[10].

In this paper, we report the synthesis of hydroxyapatite with PMMA and Dextran composite by wet chemical method. The synthesized composite was characterized by XRD, FTIR, TEM, TGA/DTA, Antibacterial activity and Anti-inflammatory test.

II. EXPERIMENTAL

Materials

The raw materials required to start the processing of the composite were: calcium hydroxide $Ca(OH)_2$ and Ammonium dihydrogen phosphate $(NH_4)_2$ PO_4 , PMMA were obtained from Merk(India). Dextean was purchased from Loba(India). Ethanol and double distilled water were used as the solvent.

Synthesis of nano HAp

Nano HAp was synthesized by following, a modified wet chemical method. At room temperature, 5.56g of calcium hydroxide was dissolved in an ethanol-water mixed solution and stirred for 4h. A solution of 6.7g Ammonium dihydrogen phosphate was dissolved in a 100ml volume of water and then added to the $Ca(OH)_2$ solution over a period of 24 hours. The liquid products were then heated in a Microwave oven.

Synthesis of nHAp with PMMA and Dextran

PMMA and Dextran were dissolved in double distilled water. Then added suitable amount of HAp periodically

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2014): 5.611

Microwave Assisted Synthesis and Characterization of Silver Nanoparticles Using Ocimum basilicum and its Anti-Inflammatory Activity against Human Blood Cells

P. Anitha[1], P. Sakthivel[2*]

[1]Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamilnadu, India

[2*] Associate Professor, Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India

Abstract: *The present investigation was to synthesis the nanoparticles by using the medicinal plant Ocimum basilicum leaf extract and silver nitrate solution. The synthesized silver nanoparticles were analyzed by UV Spectroscopy (UV-Vis), Transmission Electron Microscopy (TEM), X- ray diffraction spectroscopy (XRD) and Fourier transform infrared spectroscopy (FTIR). The particle is found to have an average size of 14.6 nm& 13.8nm by XRD and TEM analysis respectively. The silver nanoparticles were synthesized by microwave assisted method, which was found to yield nanoparticles rapidly and easily. Further, these nanoparticles were found to exhibit AgNPs, which may also be efficiently employed in Anti-inflammatory activity of pharmaceutical research to obtain better result of plant as shown by our study. The anti-inflammatory activity of silver nanoparticles was tested and confirmed against human blood cells. Hence, the present research aims to open new avenues for the improvement of medicinal uses with the synthesis of silver nanoparticles by using Ocimum basilicum leaf extract for various ailments and to bring the anti-inflammatory medicinal plant to the scientist's notice, to educate awareness and add values to the resource.*

Keywords: silver nanoparticles, Ocimum basilicum, TEM, XRD, FTIR, anti-inflammatory etc.,

1. Introduction

Nano structured materials have been fascinating in recent years since they show valuable and unusual remarkable properties, compared to conventional polycrystalline materials. Nanoparticles play an important role in all fields. In medical field it is used to treat skin cancer and reduce bleeding in trauma patients[1].Plant extracts are rich sources of secondary metabolites. Most of the extracts contain several metabolites that can easily reduce silver nitrate to silver nanoparticles. Ocimum basilicum (L.) is also known as sweet basil and King of spices. It is a popular Chinese medicinal herb of the family Labiatae[2].Nanotechnology is rapidly growing technology, which holds a huge promise for the design and development of many types of novel products with its potential medical applications on early disease detection, treatment, and prevention. Nanoparticles produced and utilized in a wide range of commercial products throughout the world. The field of nanotechnology is an active area of research.

Nanoparticles exhibit new or improved properties based on specific characteristics such as size (100 nm), distribution and morphology. Nanotechnology is mainly concerned with synthesis of nanoparticles of variable sizes, shapes, chemical compositions and controlled dispersity and their potential use for human benefits[3]. In recent years, noble metal nanoparticles have been the subject of focused research due to their unique optical, electronic, mechanical, magnetic, and chemical properties that are significantly different from those of bulk materials[4]. Ocimum basilicum(Sweet basil) is one of the well-known and valuble medicinal plant and its extracts have been used to treat headaches, cough, diarrhea, warts, constipation, kidney mal-functions and microbial infections [5,6] and its Aglycones found to have antioxidant capacity[7]. Ethanol extracts of O.basilicum decrease cholesterol and lipid accumulation in human macrophages[8]. The silver and silver nanoparticles have been widely used in medical industry as topical ointments to prevent infection against burn and open wounds[9]. Therefore the present investigation was made to synthesis silver nanoparticle by using the leaf extract of O.basilicum to find their anti-inflammatory activity of the plant.

Nanotechnology is an active area of research with tremendous applications for society, industry and medicine. The non-polluting nanotechnologies have revolutionized the production of nanomaterials as environmentally safe products. Several chemicals used in the chemical and physical synthesis of nanoparticles are toxic which leads to environmental pollution[10]. Therefore biological sources can be an alternative for the synthesis of nanoparticles [11-13]. Plants are the richest bio resources of drugs in traditional and modern medicine[14]. Silver nanoparticles have wide range of applications such as catalysis [15], drug delivery[16], biosensing[17,18] and optics [19],were suggested as possible ecofriendly alternatives to chemical and physical methods. Ocimum basilicum (Lamenaceae) is a well known aromatic and medicinal plant, which attracted great attention in the ancient system of Indian medicine for its use in various ailments such as muscle cramps, pain, insecticidal, anti-ulcer, anti- inflammatory, diabetes and respiratory tract problems[20-24]. Traditionally, the essential oil of Ocimum basilicum was used as anti-inflammatory, antiseptic, and gastrointesinal protective medicine[25,26]. Recently, microwave heating has been explored as a promising technique for nanoparticle synthesis. In the present study, we first report the reduction of silver ions using aqueous Ocimum

Licensed Under Creative Commons Attribution CC BY

3.3.2. Number of research papers per teacher in the Journals notified on UGC

VOLUME 6 ISSUE 1 JANUARY 2019, Volume 06, Issue 1 www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

Experimental and Theoretical Determination of Structural and Vibrational Properties of 3-(Trifluoromethyl) Phenylacetontrile

S.Seshadri[a,*], M.Padmavathy[b]
[a,*]Head & Associate professor in PG & Research Department of Physics, Urumu Dhanalakshmi College, Trichy, India
[b]Department of Physics, Shrimati Indira Gandhi College, Trichy, India.

Abstract

The title compounds was characterized by FT-IR, FT-Raman, ^{13}C NMR and ^{1}H NMR spectroscopy. In the present work, the compound 3-(Trifluoromethyl)phenylacetontrile is studied experimentally and theoretically. The vibrational assignments were made with the help of potential energy distribution (PED). The calculations have been performed to NLO and NBO studies by density functional theory (DFT-B3LYP) with 6-311+G(d,p) basis set. Natural Bond orbital analysis has been carried out to study the stability of the molecule arises from hyperconjugative interactions and charge delocalization. The ^{13}C and ^{1}H NMR spectra have been recorded and the chemical shifts have been calculated using the gauge-independent atomic orbital method (GIAO).

Keywords
FT-IR, FT-Raman, NMR, DFT, GIAO

INTRODUCTION

Phenylacetonitrile contains molecules with ordered structure and is stabilized by dipole-dipole interactions, whereas alcohols are self-associated through the hydrogen bonding of their hydroxyl groups, creating multimers of different degrees. Alcohols are used as hydraulic fluids, in medications for animals, in manufacturing of perfumes, flavours and dyestuffs, paint removers, as defrosting and as an antiseptic agent. Phenylacetonitrile is used in organic synthesis of dyes, perfumes, pesticides, pharmaceuticals, especially penicillin precursors. Recently, substantial research work has been reported on the excess properties of benzonitrile+alkanols[1], acrylonitrile+alkanols[2], [3] and benzonirile+alkanols [4], while that on phenylacetonitrile+alkanol is relatively rare.

The present work deals with the detailed spectroscopic analysis, non-linear optical properties (NLO). Literature survey reveals that no detailed B3LYP with 6-311+G(d,p) basis set of FT-IR, FT-Raman and NMR (^{13}C and ^{1}H) chemical shifts calculation of 4TFMPA have been reported so far. It is, therefore thought worth to make this theoretical and experimental vibrational spectroscopic research based on optimized molecular structure to give the correct assignment of fundamental bands in the experimentally observed FT-IR and FT-Raman spectra. In this work, the vibrational frequencies are calculated using B3LYP/6-311+G(d,p) method. This method predicts relatively accurate molecular structure and vibrational spectra with moderate computational effort.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Pure and Applied Physics.
ISSN 0973-1776 Volume 12, Number 1 (2016), pp. 47-52
© Research India Publications
http://www.ripublication.com

Evaluation of unpolarized neutron structure function and ratio of F_2^n / F_2^p by Thermodynamical Bag Model

C. Ramesh[1] and K. Ganesamurthy*

*[,1]*PG and Research Department of Physics,*
Urumu Dhanalakshmi College, Trichy 620 019, Tamil Nadu, India.
**E-mail:kgmudc@gmail.com*

Abstract:

We evaluate the unpolarized neutron structure function and the ratio F_2^n / F_2^p in the kinematic region $0.2 < x < 0.8$ at $Q^2 > 1$ GeV^2 using Thermodynamical Bag Model (TBM). The evaluated results are compared with CLASS experimental data. It is found that evaluated results show similar trend as that of experimental data in the entire kinematic range of interest.

Keywords: DIS, Nucleon structure function, TBM

Introduction:

The measurement of structure function in high energy lepton nucleon scattering plays unavoidable in the modern history of nuclear and particle physics. Quantum Chromo Dynamics (QCD) is most acceptable theory for describing the strong interaction [1]. In earlier, the structure function is demonstrated from deep inelastic scattering (DIS) experiments at SLAC, the quarks are constituents of proton and neutron [2] and is interpreted in terms of quark and gluon momentum distributions which gives the internal picture of the nucleon [3-4]. In the past four decades, the DIS experimental programs are done by SLAC, CERN and DESY. These experiment results give the investigation of parton distribution functions (PDFs) over a wide kinematic range x region and Q^2. Moreover, other experiments for the purpose of probing the structure function of nucleon were demonstrated by Drell-yan, W-boson and jet production at Fermi lab [5-6]. The structure functions reflect the QCD features, asymptotic freedom at short distance and quark confinement at long distance scale. It provides the strong constraints on the quark and gluon momentum distribution functions of the nucleon. Baillie [7] presented the first measurement of unpolarized neutron structure function using the spectator tagging technique gives high precision data from which we studied the information about the neutron structure function. Barik[8] using independent

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Vibrational Spectra (FT-IR, FT-Raman and NMR) of 1, 5-Difluoro-2,4-dinitrobenzene based on Density Functional Calculations

S. Seshadri[1], M. Padmavathy[2]

[1]PG & Research Department of Physics, Urumu Dhanalakshmi College, Kattur, Trichy-620019, India

[2]Department of physics, Shrimati Indira Gandhi College, Trichy-620002, India

Abstract: *The experimental and theoretical study on the structures and vibrations of 1,5-Difluoro-2,4-dinitrobenzene (DFDNB) is analyzed. The Fourier transform infrared (FT-IR) spectrum (4000–400 cm^{-1}) and the Fourier transform Raman (FT-Raman) spectrum (3500–100 cm^{-1}) of the title molecule have been recorded. The complete assignments were performed on the basis of the potential energy distribution (PED) of the vibrational modes calculated with scaled quantum mechanical (SQM) method. The molecular structures and vibrational frequencies, infrared intensities and Raman scattering actives have been calculated. ^{13}C and ^{1}H NMR chemical shifts results were also compared with the experimental values.*

Keywords: FT-IR, FT-Raman, PED, SQM, NMR

www.ijsr.net

1. Introduction

Nitrobenzene is an organic compound with the chemical formula C6H5NO2. It is water-insoluble pale yellow oil with an almond-like odor. It freezes to give greenish yellow crystals. It is produced on a large scale as a precursor to aniline. Although occasionally used as a flavoring or perfume additive, nitrobenzene is highly toxic in large quantities. In the laboratory, it is occasionally used as a solvent, especially for electrophilic reagents. Aromatic compound such as benzene derivative of fluoronitrobenzene is commonly used in pharmaceutical products. Benzene under goes nitration and halogenations, then the reactions of the benzene slow down. Nitrofluorobenzene are produced for industrial uses such as dyes, drugs, pesticides, shoe polish, spray paint, and synthetic rubber [1,2].

Fluorine substituent can greatly increase the fat solubility of molecules, which is particularly important in pharmaceuticals where it can increase their bioavailability. Molecules including more fluorine, amplifies the effect and have regular feature in both drug and agrochemical actives. Numerous common fungicides also contain fluorine atoms. Fluorine is a common element in antibiotic molecules, too. Fluorine has become a popular feature in drugs and agrochemicals because of the effects it exerts in molecules. The anti-inflammatory drugs are designed to treat rheumatoid arthritis [1].

Fluorine is the most electronegative atom of all the compounds. It pulls electrons toward it, thus reducing the electron density at the carbon in a C–F bond. It also affects the molecule's dipole moment and the molecule's over all stability. Nitrobenzene is an aromatic nitro compound. Most nitrobenzene (97%) is used in the manufacturing of aniline. Nitrobenzene is highly toxic in large quantities and is mainly produced as a precursor to aniline. In the laboratory it finds occasional use as a solvent especially for electrophilic [2].

Nitrobenzene can cause a wide variety of harmful health effects to exposed persons. Repeated exposures to a high concentration of nitrobenzene can result in a blood condition called methemoglobinemia (a form of anemia). This condition affects the ability of blood carrying oxygen [3]. Exposure level is extremelyhigh nitrobenzene can cause coma and possibly death unless prompt medical treatment is received. In case of long-term exposure to nitrobenzene, the presence of its breakdown products, p-nitrophenol and p-aminophenol, in the urine is an indication of nitrobenzene exposure. The results of these tests cannot be used to determine the level of nitrobenzene exposure [4, 5].

Therefore the fluorine substituted nitrobenzene is also used to produce pharmaceutical drugs and agrochemical products. Various spectroscopic studies of halogen substituted compounds have been reported in the literature [6–8] so far. The molecular structure of ortho and para fluoronitrobenzene have been investigated by HF and DFT calculations [9]. However, no FT-IR, FT-Raman and NMR analysis of DFT calculation with B3LYP method at 6−31++G(d,p) basis set is reported on DFDNB so far, in spite of its pharmaceutical importance. Hence, in the present work a detailed DFT vibrational structure analysis has been attempted by recording FT-IR and FT-Raman spectra of the compound DFDNB considering its biological and pharmaceutical uses.

2. Experimental Details

The fine polycrystalline samples of a 1,5-Difluoro-2,4-dinitrobenzene (DFDNB) was used for the spectral measurements. Fourier transform infrared (FT-IR) spectra of the title compounds are recorded with KBr pellet technique in the 4000-400 cm^{-1} region using BRUKER IFS-66V FT-IR spectrometer equipped with a cooled MCT detector for the mid-IR range at room temperature. The FT-Raman spectra was recorded on a BRUKER IFS-66V model interferometer equipped with an FRA-106 FT-Raman accessory. The spectra were recorded in the 3000–100 cm^{-1}

Licensed Under Creative Commons Attribution CC BY

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Advanced Engineering and Nano Technology (IJAENT)
ISSN: 2347-6389, Volume-3 Issue-3, April 2016

Microwave Assisted Synthesis and Characterization of Silver Nanoparticles Using Citrullus Lanatus Leaf Extract and Its Anti-Inflammatory Activity Against Human Blood Cells

P. Anitha, P. Sakthivel

Abstract: The use of engineered nanomaterials has increased as a result of their positive impact on many sectors of the economy, including agriculture. In the current study, the plant extract of Citrullus Lanatus is used for the synthesis of silver nanoparticles. The leaf extract is mixed with $AgNO_3$ and then it is incubated. The extract is kept in microwave oven for exposure of heat, then it is dried and powdered. The synthesized dried powder is confirmed as nanoparticles by color transformation. The characterization of silver nanoparticles was studied by UV–Vis spectroscopy, FTIR, XRD& TEM. The silver nanoparticles synthesized were generally found in size 1-100 nm. The average size of synthesized silver nanoparticles is found to be 15.98 nm using XRD data by Scherrer's formula, which is approximately similar as the size obtained in TEM Analysis 16.32 nm. In totality, the AgNPs prepared are safe to be discharged in the environment and possibly utilized in processes of pollution remediation. AgNPs may also be efficiently utilized in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study. The Anti-inflammatory activity of silver nanoparticles was tested on human blood cells which confirms that the plant mediated synthesis of silver nanoparticles have a significant Anti-inflammatory effect on human blood cells.

Keypads: Silver Nanoparticles, UV–Vis Spectroscopy, FTIR, TEM, XRD, Anti-Inflammatory, Human Blood Cells, etc.

I. INTRODUCTION

Nanotechnology is a branch of science that is related to nanomaterials, which helps to overcome the limitations of size. The interactions of Nanomaterials with plants have not been fully elucidated. There have been different and often conflicting reports on the absorption, translocation, accumulation, biotransformation, and toxicity of nanoparticles in various plant species. The effects of silver nanoparticles (AgNPs) are still under investigation [1],[2].The impact of AgNPs on higher plants appears to depend on the species and age of the plants; the size and concentration of the nanoparticles; the experimental conditions, such as temperature, duration and method of exposure [3]. Silver nanoparticles are of interest because of the unique properties (e.g., size and shape depending on optical, electrical, and magnetic properties) which can be incorporated into antimicrobial applications, biosensor materials, composite fibers, cryogenic superconducting materials, cosmetic products, and electronic components [4]. Several physical and chemical methods have been used for synthesizing and stabilizing silver nanoparticles. The most popular chemical approaches, including chemical reduction using a variety of organic and inorganic reducing agents, electrochemical techniques, physiochemical reduction, and radiolysis are widely used for the synthesis of silver nanoparticles [5].

Recently, nanoparticle synthesis is among the most interesting scientific areas of inquiry, and there is growing attention to produce nanoparticles using environmentally friendly methods (green chemistry) Green synthesis approaches include mixed-valence polyoxometalates, polysaccharides, Tollens, biological, and irradiation method which have advantages over conventional methods involving chemical agents associated with environmental toxicity [6].C. lanatus is an important cucurbit crop, accounting for 7% of the worldwide area devoted to vegetable production. Watermelon (Citrullus Lanatus) is a fruit crop of the family Cucurbitaceous, along with other cucurbit crops including the melon, cucumber, and zucchini. Watermelon thrives in the temperate regions of Africa, central Asia, and the Mediterranean. Fruit of Citrullus Lanatus consumed in the summer season and it give schilling effect and reduce thirst. The fruit contains so many active phytoconstituents and minerals. The seeds contain fatty acids and have good activities. Different literature revels medicinal the importance fruit as well as seeds [7].In the present investigation, Citrullus Lanatus was used for the synthesis of AgNPs for the first time using its leaf extract. To confirm the formation of nanoparticles, different characterization techniques have been used.

II. MATERIALS AND METHODS

A. Collection of leaf

Fresh leaves of the Sample was collected from T.V Kovil, Trichy, Trichy, during the month of May and identified by Dr. John Britto, The Director, Rabinat Herbarium and Center for Molecular Systematic, St.Joseph's College (Campus),Tiruchirappalli-2, Tamil Nadu. India. (Plant authentication No: PN003).

B. Preparation of leaf extract

The fresh and young leaf sample was collected & washed thoroughly with sterile double distilled water (DDW).

Revised Version Manuscript Received on April 06, 2016.
P. Anitha, Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamil Nadu, India.
P. Sakthivel, Associate Professor, Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India.

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication Pvt. Ltd.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

to be an ideal material for photo splitting of water to evolve hydrogen. In this paper, we have synthesised $Bi_2Fe_4O_9$ nanopowders by co-precipitation method. The as prepared nanopowders were characterized for their photcatalytic activity.

2. Experimental Methods

In a typical synthesis process, 0.1M of Bismuth Nitrate $(Bi(NO_3)_3.5H_2O$ and Ferric Nitrate $Fe(NO_3)_3.9H_2O$ was dissolved by dilute Nitric acid (HNO_3) in a round bottom flask stirred for half an hour, then the NaOH solution was added in drop wise to the above solution. The solution was stirred thoroughly and maintained a constant temperature of about 70 °C until a pH of 12 is attained. The above process yields brownish red precipitate. The precipitate is then filtered by using wattmann filter paper and centrifuged with distilled water for several times to remove impurities and residual materials. The resultant product dried at a temperature of 100°C for 3 hours. The resultant powder is then calcinated at different temperatures (300°C, 400°C & 500°C) for one hour. In figure 1, the as prepared $Bi_2Fe_4O_9$ nanopowder is shown which is calcined at 300°C.

The crystal structures of the as-prepared $Bi_2Fe_4O_9$ samples were determined by X-ray powder diffraction (XRD) using a analytical XPERT PRO diffractometer with Cu Kα radiation ($\lambda = 0.1542$ nm). UV-Vis diffuse reflectance spectrum (UV-DRS) of the powders was measured using a Varian Cary model 5000 spectrophotometer. The scanning electron microscope (SEM) and elemental characterization were performed on a Carl ZEISS EVO 18 attached with EDS. The photoluminescence measurements were made using FLUOROLOG - FL3-11 Spectroflurometer. Raman studies were carried out using Confocal Raman spectroscopy (Reinshaw invia make) with 514 nm line of an Ar+-ion laser with a 50 mW power over a 10 μm spot size.

The Photocatalytic studies were performed to evaluate the degradation property of prepared $Bi_2Fe_4O_9$ nanopowders. The degradation of Methylene Blue (MB) was carried out in atmospheric conditions (25 °C) at neutral pH in a 600 ml capacity Heber Visible Annular type photo reactor. The amount of catalyst and MB used for all the experiments was the same (250 mg per 200 ml of 2.0×10^{-3} g of MB in aqueous solution). Tungsten lamp of 150 W was used to irradiate the dye solution along with Photocatalyst. UV visible Absorption measurements were made for every one hour with total duration of three hours. The experimental procedure to synthesis $Bi_2Fe_4O_9$ nanopowders is displayed as a flow chart in Figure 2.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 1076-5131

GROWTH AND SOME OPTICAL, MIROHAREDNESS, ELECTRICAL STUDIES OF L-ARGININE POTASSIUM IODIDE (LAPI) NLO CRYSTALS

G. Kanagan[1], S. Pari[1]* R. Sambasivam[2], G.Satheesh Kumar[1]

[1]Department of Physics, National College (Autonomous), Trichirappalli -620 001
[2]Department of Physics, Urumu Dhanalakshmi College, Trichirappalli-620 019

Corresponding Author: sparimyur@gmail.com

Abstract:

A novel semiorganic NLO material viz., L-arginine potassium iodide (LAPI) has been synthesized by slow evaporation technique. Single crystal X-ray diffraction shows that the material crystallizes in monoclinic structure with the non-centrosymmetric space group $P2_1$. Powder XRD technique confirms the crystallinity of the sample. The FTIR spectrum was used to identify the various functional groups present in LAPI crystal. The UV-vis-NIR transmission spectrum and PL spectrum were recorded and analysed. The ^{1}H NMR spectrum analysis. The microhardness tester was used to carry out mechanical property of the sample. SHG studies for the sample were carried out.

Keywords:

Solution growth, L-arginine complex, XRD, FTIR, UV ,^{1}H NMR, dielectrics, microhardness, band gap

1. Introduction

Semiorganic compound crystals have a lot of NLO applications like terahertz wave generation, frequency conversion, electro-optic light modulation, optical computing, optical communication and deflectors in optically operated fibres. The semiorganic single crystals have the properties of both organic and inorganic materials. Many amino acids contain protonated amino group and a deprotonated carboxylic group [1-3]. There are more than 20 genetically encoded amino acids found in proteins. The crystal structure of arginine has not been completely solved. From the literature survey, it is noticed that the crystal structures of L-arginine dihydrate, DL-arginine monohydrate and DL-arginine dihydrate have been reported [4-7]. A semiorganic NLO crystal viz., L-arginine hydrochloride has been grown and the physical properties such as thermal expansion, elastic properties and dielectric characteristics were studied [8, 9]. Sudeshna Mukerji et al [8, 9] have grown the crystals of L-arginine hydrochloride and L-arginine hydrobromide and the hardness properties were found. Knoop microhardness anisotropy on the cleavage plane (100) of single crystals of

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations

ISSN NO: 1076-5131

Experimental and Theoretical Investigation of FT-IR and FT-RAMAN HOMO- UMO and Mulliken atomic charge of 2, 5- Dimethoxy acetophenone

R. Sambasivam[1], S. Saravanan[2*], G. Satheesh Kumar[2], S. Pari[2]

[1]Department of Physics Urumu Dhanalakshmi College, Trichy

[2] Department of Physics, National College (Autonomous), Tiruchirappalli-1

*Corresponding author: sarantry2009@gmail.com

ABSTRACT

The experimental and theoretical study on the structures and vibrations of 2,5-dimethoxy acetophenone (abbreviated as 25DMAP) are presented. The FT-IR and FT-Raman spectra of the title compound have been recorded in the region 4000−400 cm^{-1} and 3500−100 cm^{-1} respectively. The molecular structures, vibrational wavenumbers, infrared intensities and Raman activities were calculated using DFT (B3LYP) method with 6-31+G (d) basis set. The most stable conformer of 25DMAP is identified from the computational results. HOMO and LUMO energies were determined by time-dependent TD-DFT approach and Mullikan analysis on atomic charges of the title compound have been calculated.

Keywords

2, 5- Dimethoxy acetophenone, FTIR, FT Raman, HOMO – LUMO, Mullikan's plot, Molecular electrostatic potential

Introduction

Acetophenone is one of the most aromatic carbonyls, which shows interesting photochemical properties [1, 2]. Acetophenone are compound that exhibit interesting physicochemical and biological properties. They are found in nature [3, 4] and they can also be obtained by means of diverse synthesis procedures [5, 6]. Antibacterial activity can be mentioned among its biological properties. A recent study has linked the antibacterial activity of 20 acetophenone with their structural characteristics by using electronic and topological indices [7]. On the other hand, substituted acetophenone are employed as synthesis reagents of several organic reactions. A well-known one is the condensation reaction in alkaline medium of acetophenones and benzaldehydes in the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Physics and Research (IJPR)
ISSN(P): 2250-0030; ISSN(E): 2319-4499
Vol. 5, Issue 6, Dec 2015, 39-48
© TJPRC Pvt. Ltd.

TRANS STELLAR
•Journal Publications •Research Consultancy

Original Article

SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES USING ANDROGRAPHIS PANICULATA AND ITS ANTI-INFLAMMATORY EFFECTS ON HUMAN BLOOD CELLS

P. ANITHA[1] & P. SAKTHIVEL[2*]

[1]*Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamil Nadu, India*

[2*]*Associate Professor, Department of Physics, Urumu Dhanalakshmi College (Autonomous), Trichy, Tamil Nadu, India*

ABSTRACT

Various researchers are interested in the synthesis and characterization of nanoparticles, due to its wide applications in the field of medicine. In the present study the extract of Andrographis paniculata leaf (Family: Acanthaceae) is synthesized as silver nanoparticles. The leaf extract is mixed with $AgNO_3$, and then it is incubated. The extract is kept in microwave oven for exposure of heat, dried and powdered. The synthesized dried powder is confirmed as nanoparticles by color transformation. The characterization of silver nanoparticles was studied by UV–Vis spectroscopy, FTIR, XRD&TEM. The silver nanoparticles synthesized were generally found in size 1-100 nm. The results showed that the leaf extract is ideal for the synthesis of silver nanoparticles and it is also known to have the ability to constrain the growth of various pathogenic microorganisms. The average size of synthesized silver nanoparticles is found to be 15.59nm using XRD data by Scherrer's formula, which is approximately similar as the size obtained in TEM analysis (15.38nm). On the whole, the AgNPs prepared are safe to be discharged in the atmosphere and possibly utilized in processes of pollution remediation. AgNPs may also be competently consumed in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study. The Anti-inflammatory activity of silver nanoparticles was tested on human blood cells which confirms that the plant mediated synthesis of silver nanoparticles have a significant Anti-inflammatory effect on human blood cells.

KEYWORDS: *Silver Nanoparticles, UV–Vis Spectroscopy, FTIR, TEM, XRD, Anti-Inflammatory, Human Blood Cells, etc.,*

Received: Oct 31, 2015; **Accepted:** Nov 05, 2015; **Published:** Dec 11, 2015; **Paper Id.:** IJPRDEC201506

INTRODUCTION

The field of Nanoscience has flourished over the last twenty years and the need for nanotechnology will only increase as miniaturization becomes more important in areas such as computing, sensors, and biomedical applications. Advances in this field largely depend on the ability to synthesize nanoparticles of various nano materials, based on their sizes, and shapes, as well as their efficiency to assemble them into complex architectures (David D et al., 2005)[1].Nanotechnology provides the ability to engineer the properties of materials by controlling their size, and this has been driven research toward a multitude of potential uses for Nanomaterial (Saifuddin N et al., 2009)[2].

Nanoparticle synthesis and characterization are fundamental importance in the advancement of recent

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Molecular Structure 1148 (2017) 314–321

Contents lists available at ScienceDirect

Journal of Molecular Structure

journal homepage: http://www.elsevier.com/locate/molstruc

Growth and characterization of DL-Mandelic acid ($C_6H_5CH(OH)CO_2H$) single crystal for third-order nonlinear optical applications

P. Jayaprakash [a], P. Sangeetha [a], M. Peer Mohamed [a, *], G. Vinitha [d], S. Muthu [d], M. Prakash [e], M. Lydia Caroline [a, b, *]

[a] Department of Physics, Arignar Anna Govt. Arts College, Cheyyar, 604 407, Tamil Nadu, India
[b] Department of Physics, Dr. Ambedkar Govt. Arts College, Vyasarpadi, Chennai, 600 039, India
[c] Department of Physics, C. Abdul Hakeem College, Melvisharam, 632509, Tamil Nadu, India
[d] Division of Physics, School of Advanced Science, VIT University, Chennai, 600 127, India
[e] Department of Physics, Urumu Dhanalakshmi College, Thiruchirappalli, 620 019, Tamil Nadu, India

ARTICLE INFO

Article history:
Received 9 June 2017
Received in revised form
19 July 2017
Accepted 19 July 2017
Available online 24 July 2017

Keywords:
Nonlinear optics
Optical absorbance
Dielectric studies
Optoelectronic
Z-scan technique

ABSTRACT

An organic conjugated chromophore DL-mandelic acid (DLMA) single crystal was synthesized and grown-up by means of slow evaporation technique. Single crystal X-ray diffraction study proclaimed that the DLMA crystal crystallized in monoclinic system with centrosymmetric space group $P2_1/c$. The various characteristic fundamental vibration frequencies were identified by FTIR spectroscopic studies. UV–visible spectral analysis concluded that the lower cut-off wavelength and calculated direct optical band gap of DLMA as 257 nm and 5.40 eV respectively. Thermal property of DL-mandelic acid was established through thermogravimetric and differential scanning calorimetric technique. The electric field response of DLMA crystal was investigated from the dielectric studies at a few selected temperatures and frequencies. The quantum chemical assessments such as HOMO-LUMO, molecular electrostatic potential and NLO activity were calculated and presented. In order to determine mechanical strength of DLMA crystal for various loads using Vickers microhardness tester. The real and imaginary parts of the third-order susceptibility (χ^3) were evaluated with the Z-scan technique using closed and open signatures respectively and was found to be Re (χ^3) = 4.15 × 10^{-6} esu and Im (χ^3) = 0.47 × 10^{-6} esu.

© 2017 Elsevier B.V. All rights reserved.

1. Introduction

Carboxylic acids are known as quite interesting building blocks for coordination compounds contributing to various roles through complexation such as one, two or more dentate coordination, bridging or chelating legends and counter-ions [1]. Moreover, carboxylic acid moiety is regarded to have a highly polar organic functional group, which may be due to a strongly polarized carboxyl (C=O) group and hydroxyl (O–H) group. This would result in a strong permanent dipole that can participate in energetic hydrogen bonding interaction [2]. In recent years, organic molecules with strong third-order nonlinear optical absorptions are of great requirement because of their potential applications such as 3D optical memory, optical switching, optical modulating, optical communication and high-speed information processing [3]. Recent research shows that organic molecule possess a broad range of third-order susceptibilities associated with fast response time in addition to their simplicity of process ability [3]. Organic materials with its excellent molecular flexibility and structural diversity allow one to fine-tune the chemical structures and achieve favoring optical nonlinearities, ultrafast response time and rapid response to electro-optic effect [4]. Large number of organic crystals has been widely studied in the past couple of decades for their applications in opto-electronics. Actually, organic molecules are always fascinating to synthetic and material chemists because of their simply tailoring and synthesis [5]. In organic crystals, the π orbits and delocalization of electronic charge distribution overlap together and this overlap is responsible for the π bond system that leads to high mobility of electron density [6]. Amid the organic systems, donor-acceptor charge transfer based hyperpolarizable compound possesses excellent third-order nonlinear optical properties

* Corresponding author. Department of Physics, Dr. Ambedkar Govt Art College, Vysarpada, Chennai, 600 039, Tamil Nadu, India.
E-mail address: lydiacaroline2006@yahoo.co.in (M. Lydia Caroline).

http://dx.doi.org/10.1016/j.molstruc.2017.07.049
0022-2860/© 2017 Elsevier B.V. All rights reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Normal Coordinate Analysis, Vibrational Spectroscopy Studies and Quantum Chemical Calculationsof 1,5-Dichloro-2,3-dinitrobenzene

S. Seshadri[1], M. Padmavathy[2]

[1]PG & Research Department of Physics, Head & Associate Professor, UrumuDhanalakshmi College, Kattur, Trichy-620019, India

[2]Department of physics, Shrimati Indira Gandhi College, Trichy-620002, India

Abstract: *Extensive vibrational investigations of 1,5-Dichloro-2,3-dinitrobenzene (DCDNB) have been carried out with FT-IR and FT-Raman techniques. The electronic structure of the molecule has been analysed by UV-Visible and NMR spectroscopies. This studies were carried out with Hartree-Fock (HF) method utilizing 6-311+G(d,p) and 6-311++G(d,p) basis sets to determine the structural, vibrational and electronic characteristics of the compound. The mixing of the fundamental modes was determined with the help of potential energy distribution (PED). ^{13}C and ^{1}H NMR chemical shifts and the electronic transitions of the molecule are also discussed.*

Keywords: FT-IR, FT-Raman, NMR, PED, HF

1. Introduction

Nitrobenzene is water insoluble pale yellow oil with an almond like odor. It freezes to give greenish yellow crystals. It is produced on a large scale as a precursor to aniline. Although occasionally used as a flavoring or perfume additive, nitrobenzene is highly toxic in large quantities. In the laboratory, it is occasionally used as a solvent, especially for electrophilic reagents. Nitrobenzene is used mostly in the production of aniline [1], which is a precursor to rubber chemicals, pesticides, dyes, explosives, and pharmaceuticals. 1,2-Dichloro-4-nitrobenzene is a pale yellow solid related to 1,2-dichlorobenzeneby the replacement of one H atom with a nitro functional group. This compound is an intermediate one in the synthesis of agrochemicals. The nitration of 1,2-dichlorobenzene mainly produces 1,2-dichloro-4-nitrobenzene, together with smaller amounts of the 3-nitro isomer. It can also be prepared by chlorination of 4-chloronitrobenzene [1].

Nitrobenzene is also used in shoe and floor polishes, leather dressings, paint solvents and other materials to make unpleasant odors. Redistilled, as oil of mirbane, nitrobenzene is used as an inexpensive perfume for soaps. A significant commercial use of nitrobenzene is its use in the production of the analgesic paracetamol (also known as acetaminophen) (Mannsville 1991) [2]. Apart from its conversion to aniline, nitrobenzene is readily converted to related derivatives such as azobenzene, nitrosobenzene and phenylhydroxylamine. The nitro-group is deactivating and substitution ends to occur at the meta-position. It is also used in the manufacture of azo dyes, fungicides, rubber chemicals and explosives and as an algicide in colant water of air conditioning systems. Therefore an attempt was made to get an insight into the nature of vibrational modes; normal coordinate analysis was performed, which enabled to obtain a detailed interpretation of the vibrational spectra of the DCDNB.

Nitrobenzene can cause a wide variety of harmful health effects to exposed persons. Repeated exposures to a high concentration of nitrobenzene can result in a blood condition called methemoglobinemia (a form of anemia). This condition affects the ability of blood carrying oxygen [3]. Exposure level is extremely high nitrobenzene can cause coma and possibly death unless prompt medical treatment is received. In case of long-term exposure to nitrobenzene, the presence of its breakdown products, p-nitrophenol and p-aminophenol, in the urine is an indication of nitrobenzene exposure. The results of these tests cannot be used to determine the level of nitrobenzene exposure [4,5].

Quantum chemical computational methods have proven to bean essential tool for interpreting and predicting the vibrational spectra [3–6]. A significant advancement in this area was made by combining semi-empirical quantum mechanical method ab initioquantum mechanical method and density functional theory (DFT),each method having its own advantages [5–8]. However, no Fourier transform infrared (FT-IR), (Fourier transform Raman) FT-Raman, ultraviolet visible (UV-Vis)and nuclear magnetic resonance (NMR) analysis using HF method at 6-311++G(d,p) and 6-311+G(d,p)basis sets are reported on DCDNB so far, inspite of its pharmaceutical importance. Hence, in the present work a detailed HF vibrational structure analysis has been attempted by recording FT-IR and FT-Raman spectra of the title compound considering its biological and pharmaceuticaluses.

2. Experimental Details

The fine polycrystalline samples of a 1,5-Dichloro-2,3-dinitrobenzene (DCDNB) was used for the spectral measurements. Fourier transform infrared (FT-IR) spectra of the title compounds are recorded with KBr pellet technique in the 4000–400 cm^{-1} region using BRUKER IFS-66V FT-IR spectrometer equipped with a cooled MCT detector for the mid-IR range at room temperature. The FT-Raman spectrum was recorded on a BRUKER IFS-66Vmodel interferometer equipped with an FRA-106 FT-Raman accessory. The spectrum was recorded in the 3000–100 cm^{-1} stokes region using 1064 nm line of an Nd:YAG laser for

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.sphinxsai.com

ChemTech

International Journal of ChemTech Research
CODEN (USA): IJCRGG ISSN: 0974-4290
Vol.7, No.5, pp 2125-2129, 2014-2015

ICONN 2015 [4th - 6th Feb 2015]
International Conference on Nanoscience and Nanotechnology-2015
SRM University, Chennai, India

Visible Photocatalytic Activity Of Vanadium Doped With Titanium Dioxide For Biomedical Applications

Amy Magdalene Paul[1]*, Sanjana Krishnamoorthy[2], Anusuya T[1], Sakthivel P.[3]

[1]Department of Nanotechnology, SRM University, Kattankulathur, kancheepuram, TamilNadu, India 603 203
[2]Nanotechnology, Department of Nanotechnology, SRM University, Kattankulathur, kancheepuram, TamilNadu, India 603 203
[3]Urumu Dhanalakshmi College, Tiruchirapalli, TamilNadu, India 603 203

Abstract: Infections are a common post-operative complication associated with high mortality rates after surgical procedures. Coating surgical instruments or implants with antibacterial or antifungal substances may reduce the occurrence rate of infections acquired during surgical operations. The high incidence rate of post-operative infections, caused for example by the implantation of biomedical devices and/or the general hospital environment, has a severe impact on patients' health. However, no studies have been reported on the prevalence of active species of fungal and bacteria. The present study systematically examines the antibacterial properties (against Staphylococcus, Bacillus, Serratia and Pseudomonas) of nanostructured thin films based on pure TiO_2 and TiO_2 with Vanadium as an additive, created using a simple and cost effective sol-gel process. The thin films were deposited on glass and Si substrates and their structural and morphological properties were investigated by standard spectroscopic techniques such as X-Ray Diffraction, Scanning Electron Microscopy and Atomic Force Microscopy. The drop test method was used to test for antifungal and antibacterial properties. Our results indicate that increased V concentrations are associated with increased antimicrobial activity in thin films based on TiO_2:V.

Keywords: post operative infection, anti microbial activity, coating instruments.

Introduction

Titanium dioxide (TiO_2) is an important compound, whose electronic structure continues to attract considerable attention for potential modern technological applications[1]. TiO_2 can be used for the decomposition of undesired compounds in air, waste water, solar energy conversion and the production of clean energy resources through the water splitting reaction[2]. However, the application of TiO_2 as a photo catalyst for visible light-induced chemical reactions has been hampered due to its large band-gap energy (3.2eV for anatase TiO_2), which requires ultraviolet (UV) light to activate and which in turn leads to the low efficiency[3].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJASRM International Journal of Advanced Scientific Research and Management, Volume 3 Issue 8, Aug 2018
www.ijasrm.com

ISSN 2455-6378

Spectroscopic (FTIR, FT-Raman And NMR) Investigations and NBO Analysis of 2-Hydroxybenzothiazole By Quantum Mechanical Technique

Rasheed .M.P[1] ,S Seshadri [2],R sangeetha[3], Satheeshkumar M.K[4]

[1,3]Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College ,Trichy-19, India

[2]Associate Professor and HOD,PG and Research Department of Physics, Urumudhanalakshmi College ,Trichy-19, India

[4]Associate professor and Head (Rtd),Govt. Brennen College, Thalassery, Kannur, Kerala, India

Abstract

This work explains vibrational spectroscopic characteristics of 2-Hydroxybenzothiazole (2HBT) with the help of quantum mechanical calculations. The Fourier Transform Infra Red (FTIR) spectra of 2-Hydroxybenzothiazole was and recorded in the region 4000-400 cm^{-1} and that of Fourier Transform Raman Spectra (FT-Raman) spectra was recorded in the region 4000-50 cm^{-1}. The optimized geometry, intensity and different frequency of the vibrational bands were calculated by the density functional theory (DFT) using B3LYP/6-311++ G (d,p) basis set. Molecular Electrostatic Potential map of the compound was analyzed. The harmonic vibrational frequencies were obtained and the scaled frequencies have been compared with experimental FTIR and FT-Raman spectra. The experimental and calculated frequencies were found to be in good agreement. Thermodynamic properties at different temperatures were performed, giving the relation between heat capacity, entropy and enthalpy with temperatures. The ^{1}H and ^{13}C Nuclear Magnetic Resonance (NMR) were studied using the GIAO method by applying B3LYP technique. Mullikan atomic charges were listed.NBO analysis were performed. The hyper conjugative interaction energy and electron densities of the donor and acceptor bond were studied by NBO analysis

Keywords: *DFT,FTIR,FT-RAMAN,NMR, NBO,2HBT.*

1. Introduction

Benzothiazole is an is an aromatic heterocyclic compound with the chemical formula C_7H_5NS. It consists of a five membered 1,3, thiazole fused to a benzene ring. It is a colourless and slightly viscous liquid. Many of the derivatives of benzothiazole are found in commercial products or in nature. A derivative of benzothiazole is the light emitting component of luciferin which found in fireflies. Benzothiazole are prepared by treatment of 2-mercaptoaniline with acid chloride [T. E. Gilchrist,1992]. It is thermally stable electron withdrawing moiety with various applications in dyes such as thioflavin. Some drugs contain this group for example riluzole and pramipexole [Lucille Le Bozec et al]. It exhibits thioredoxine inhibitory activity. 2 mercaptobenzothiazole is used as accelators for the vulcanization of rubber [Hans-Wilhelm Engels et al, 2004]. It is a potential component in nonlinear optics (NLO) [P.Hrobarik et al 2010]. This compound is also used as food flavouring agent and insecticide.

2. Experimental Details

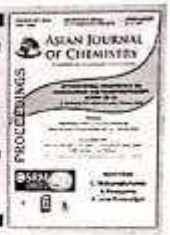
The finest sample of 2HBT was obtained from Sigma Aldrich Chemical Company UK and used as such for the spectroscopic analysis. Using a BRUCKER IFS-66V vacuum Fourier Transform

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Asian Journal of Chemistry; Vol. 25, Supplementary Issue (2013), S318-S320

ASIAN JOURNAL OF CHEMISTRY

www.asianjournalofchemistry.co.in



Synthesis and Characterization of Composite Nanoparticles for Imaging†

AMY MAGDALENE PAUL

Department of Nanotechnology, SRM University, Kattankulathur, Chennai-603 203, India

Corresponding author: E-mail: amymagdalenepaul@gmail.com

AJC-12864

Dual functions of magnetic and fluorescent properties were created in composite particles that incorporated magnetite (Fe_3O_4) nanoparticles (MNPs) as particle cores and fluorescent pyrene in particle shells of poly lactate-co-glycolide (PLGA). The Fe_3O_4 nanoparticles were prepared by co-precipitation method and surface modified with oleic acid. MNPs were prepared by co-precipitating iron(II) and iron(III) in alkaline solution and then treating under hydrothermal conditions. Surface modification of magnetic nanoparticles by organic surfactants is known to provide them with solubility in organic solvents. The structural, magnetic and adsorption properties of iron oxide nanoparticles are derived in the presence of oleic acid as the capping agents. The surfactants provide them with excellent stability and solubility in organic solvents like toluene or chloroform. The presence of capping agents or high reaction temperatures favours the formation of smaller nanoparticles. The adsorption of the surfactants (chemisorption) was identified with FT-IR spectroscopy.Then, the magnetite particles were coated with the pyrene/PLGA by emulsion-diffusion method. The composite particles prepared had both magnetic and fluorescent properties. The present work proposes a method for synthesizing the dually functional particles, which have a core-shell structure. The particles in this work consist of an inner core of Fe_3O_4 nanoparticles and a hybrid shell of polymer and organic dye. A basic technique of this work is polymer coating on Fe_3O_4 nanoparticles. The prepared nanoparticles were characterized by scanning electron microscopy, particle size analyzer, X-ray diffraction, Gauss meter, Fourier transform infrared spectroscopy and fluorescence spectroscopy. The nanoparticles could generate singlet oxygen to cause remarkable photodynamic antitumor effects. These suggest that composite nanoparticles have great potential in diagnostic magnetic resonance imaging.

Key Words: Magnetic nanoparticles, Magnetic and fluorescent property, Core-shell structure.

Nanoparticles are mesostructures with some unique properties compared to bulk materials on one hand and atomic or molecular structures on the other. Compared to the bulk materials with constant physical and chemical properties regardless of their sizes, the nanoparticles have size-dependent properties for example, super paramagnetism in magnetic nanoparticles.

Composite microspheres with dual functions of magnetic and fluorescent properties have recently received much attention in various fields such as cell labeling, biosensing and in the drug delivery system[1-6].

Magnetite (Fe_3O_4) is a common ferrite that has a cubic inverse spinel structure and exhibits unique electric and magnetic properties based on the transfer of electrons between Fe^{2+} and Fe^{3+} in the octahedral sites. When the diameter of Fe_3O_4 particles is in nano scale, Fe_3O_4 regarded as single magnetic domain has the superparamagnetic property[7,8].

All materials were purchased from Merck except PLGA which was purchased from Lakeshore. Pluronics F-127 was purchased from Sigma Aldrich. All the materials were used without further purification.

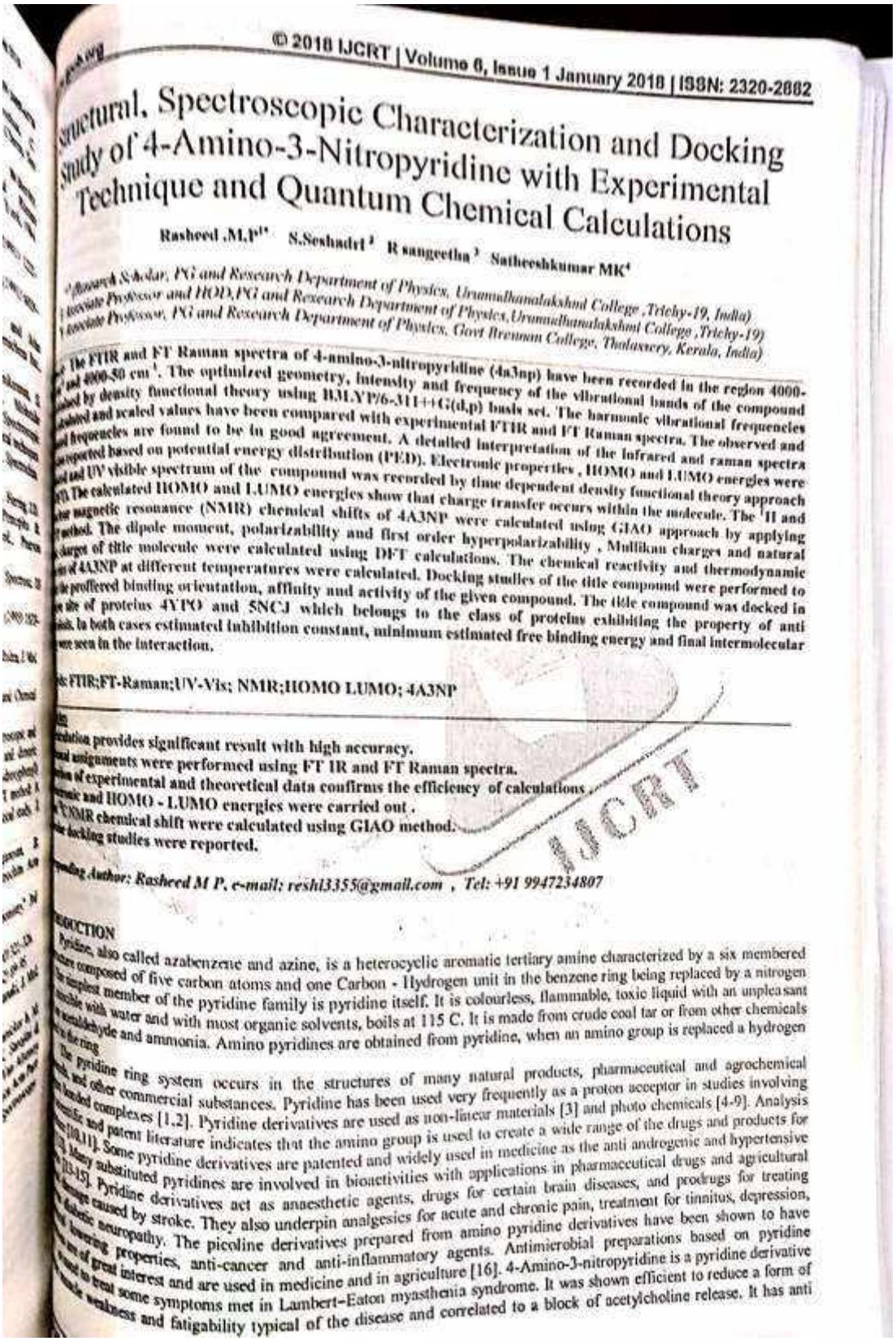
Synthesis of superparamagnetic iron oxide nanoparticles (SPION): Chemical reaction of Fe_3O_4 precipitation is given by

$$Fe^{2+} + 2Fe^{3+} + 8OH^- \longrightarrow Fe_3O_4 + 4H_2O$$

According to the results of thermodynamic modeling of this system, a complete precipitation of Fe_3O_4 is expected in pH value of 7.5-14 while maintaining a molar ratio of Fe^{2+}/Fe^{3+} = 1:2 under a non-oxidizing environment.

Coating SPIONS with oleic acid: After the precipitation of SPIONS, oleic acid (40 %, w/w of formed magnetite) was added dropwise during 10 min and the flask was heated for 0.5 h. After drying, a black powder was obtained.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



© 2018 IJCRT | Volume 6, Issue 1 January 2018 | ISSN: 2320-2882

Structural, Spectroscopic Characterization and Docking Study of 4-Amino-3-Nitropyridine with Experimental Technique and Quantum Chemical Calculations

Rasheed .M.P[1*] S.Seshadri[2] R sangeetha[3] Satheeshkumar MK[4]

[1]Research Scholar, PG and Research Department of Physics, Urumuthamalakshmi College ,Trichy-19, India)
[2] Associate Professor and HOD,PG and Research Department of Physics,Urumuthamalakshmi College ,Trichy-19)
[3] Associate Professor, PG and Research Department of Physics, Govt Brennan College, Thalassery, Kerala, India)

The FTIR and FT Raman spectra of 4-amino-3-nitropyridine (4a3np) have been recorded in the region 4000-[illegible] and 4000-50 cm^{-1}. The optimized geometry, intensity and frequency of the vibrational bands of the compound [illegible]ated by density functional theory using B3LYP/6-311++G(d,p) basis set. The harmonic vibrational frequencies [illegible]culated and scaled values have been compared with experimental FTIR and FT Raman spectra. The observed and [illegible]ed frequencies are found to be in good agreement. A detailed interpretation of the infrared and raman spectra [illegible]e reported based on potential energy distribution (PED). Electronic properties , HOMO and LUMO energies were [illegible]ed and UV visible spectrum of the compound was recorded by time dependent density functional theory approach [illegible]FT). The calculated HOMO and LUMO energies show that charge transfer occurs within the molecule. The ^{1}H and [illegible]ear magnetic resonance (NMR) chemical shifts of 4A3NP were calculated using GIAO approach by applying [illegible]e method. The dipole moment, polarizability and first order hyperpolarizability , Mulliken charges and natural [illegible]charges of title molecule were calculated using DFT calculations. The chemical reactivity and thermodynamic [illegible]ties of 4A3NP at different temperatures were calculated. Docking studies of the title compound were performed to [illegible]e the proffered binding orientation, affinity and activity of the given compound. The title compound was docked in [illegible]ive site of proteins 4YPO and 5NCJ which belongs to the class of proteins exhibiting the property of anti [illegible]cancer. In both cases estimated Inhibition constant, minimum estimated free binding energy and final intermolecular [illegible]ctions were seen in the interaction.

Keywords: FTIR;FT-Raman;UV-Vis; NMR;HOMO LUMO; 4A3NP

[illegible]

[illegible]culation provides significant result with high accuracy.
[illegible]ional assignments were performed using FT IR and FT Raman spectra.
[illegible]ison of experimental and theoretical data confirms the efficiency of calculations .
[illegible]ronic and HOMO - LUMO energies were carried out .
^{1}H, ^{13}C NMR chemical shift were calculated using GIAO method.
[illegible]ecular docking studies were reported.

Corresponding Author: Rasheed M P, e-mail: reshi3355@gmail.com , Tel: +91 9947234807

INTRODUCTION

Pyridine, also called azabenzene and azine, is a heterocyclic aromatic tertiary amine characterized by a six membered [illegible]ture composed of five carbon atoms and one Carbon - Hydrogen unit in the benzene ring being replaced by a nitrogen [illegible]The simplest member of the pyridine family is pyridine itself. It is colourless, flammable, toxic liquid with an unpleasant [illegible]miscible with water and with most organic solvents, boils at 115 C. It is made from crude coal tar or from other chemicals [illegible]e acetaldehyde and ammonia. Amino pyridines are obtained from pyridine, when an amino group is replaced a hydrogen [illegible]om the ring.

The pyridine ring system occurs in the structures of many natural products, pharmaceutical and agrochemical [illegible]ucts and other commercial substances. Pyridine has been used very frequently as a proton acceptor in studies involving [illegible]e bonded complexes [1,2]. Pyridine derivatives are used as non-linear materials [3] and photo chemicals [4-9]. Analysis [illegible]ntific and patent literature indicates that the amino group is used to create a wide range of the drugs and products for [illegible]ple [10,11]. Some pyridine derivatives are patented and widely used in medicine as the anti androgenic and hypertensive [illegible]ng. Many substituted pyridines are involved in bioactivities with applications in pharmaceutical drugs and agricultural [illegible]ts [13-15]. Pyridine derivatives act as anaesthetic agents, drugs for certain brain diseases, and prodrugs for treating [illegible]damage caused by stroke. They also underpin analgesics for acute and chronic pain, treatment for tinnitus, depression, [illegible]diabetic neuropathy. The picoline derivatives prepared from amino pyridine derivatives have been shown to have [illegible]lowering properties, anti-cancer and anti-inflammatory agents. Antimicrobial preparations based on pyridine [illegible]es are of great interest and are used in medicine and in agriculture [16]. 4-Amino-3-nitropyridine is a pyridine derivative [illegible]found to treat some symptoms met in Lambert-Eaton myasthenia syndrome. It was shown efficient to reduce a form of [illegible]muscle weakness and fatigability typical of the disease and correlated to a block of acetylcholine release. It has anti

IJCRT

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ChemTech

International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.9, No.07 pp 688-701, 2016

Defect Mediated Blue Emission and Ferromagnetism in Ni doped ZnO Nanocrystals

S. Kanchana[1], M. Sathya[2], K. Pushpanathan[2]*, Suhashini Ernest[1],

[1]PG and Research Department of Physics, Urumu Dhanalaksmi College, Tiruchirapalli-620 019, India.

[2]Nanomaterials Research Laboratory, Department of Physics, Government Arts College, Karur- 639 005, India.

Abstract : This article deals with the synthesis and characterization of nickel doped zinc oxide nanopowder prepared by precipitation method. Synthesized nanopowders were analysed for morphological, structural and optical properties. X-ray diffraction study confirmed the substitution of nickel ion without disturbing the basic wurtzite structure of zinc oxide. The average crystalline size was found to increase on nickel doping as compared to undoped zinc oxide. The lattice constants also increased with nickel content. Scanning electron microscope study also confirmed the existence of particles in nanometer size. Furthermore, scanning electron micrograph established the increase of particle size on nickel doping. Tauc's relation shows that energy gap of zinc oxide decreases with the increase of nickel content. The violet and blue emission lines of photoluminescence spectrum also deep-rooted the substitution of nickel ion in zinc oxide.

Keywords : Nanoparticle; Energy gap; Crystal structure; Microstructure; Photoluminescence.

1.Introduction

Transition metal (TM) doped zinc oxide (ZnO) nanomaterials has wrapped up enormous interest during
the last few years, due to their prospective application in spintronic devices[1-10]. Spin of the electron plays a
major role in reading and writing information in these spintronic devices[11]. Generally, TM doped nanomaterials
are branded as diluted magnetic semiconductors (DMSs). The quiet feature of DMSs is that they possess both
room temperature ferromagnetism as well as semiconducting properties. In traditional semiconducting materials
such as Si and Ge, the electrical conduction is based on the control of electrons *or* holes. But TM doped ZnO
provides a new type of controlled conduction. These magnetic semiconductors allow a control of quantum spin
state (up or down) *i.e.*, just by changing the spin of the electrons and it is possible to read/write information in
the memory devices[12].This would theoretically provide near-total spin polarization which is an important
property for spintronic applications. Besides, transition metals do not affect the band-to-band absorption
spectrum of ZnO, but they strongly modify the luminescence properties[13].They don't introduce extra charge
carriers, but rather provide impurity centres that interact with the quantum confined electron-hole pair. Since
these impurities can be paramagnetic, they also introduce a localized spin into the nanocrystals[14]. Such doped
luminescent semiconductor nanoparticles are of brawny interest for its possible use in optoelectronic devices,
such as, light-emitting diodes, spin valve transistors, spin light-emitting diodes, non-volatile memory, and lasers
as novel phosphors because of their interesting magnetic[15] and optical properties[16]. Owing to these reasons,
doped ZnO is becoming a thrust area in the field of spintronics. Among the different transition metals, like
Ni, Cu, Mg etc., Ni has its own significance that (i) it act as a well-known luminescence activator, which

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Academic Research and Development
ISSN: 2455-4197
Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 2; Issue 6; November 2017; Page No. 653-662

FT-IR and FT-Raman spectral investigation, UV, NMR and DFT computations of 2, 3-dichloro-5-trifluoromethyl pyridine

[1] R Sangeetha, [2] Dr. S Seshadri, [3] Rasheed MP

[1] Research Scholar, PG end Research Department of Physics, Urumudhanalakshmi College, Trichy, Tamil Nadu, India
[2] Associate Professor and Head, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy, Tamil Nadu, India
[3] Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy, Tamil Nadu, India

Abstract

The solid phase FT-IR and FT-Raman spectra of 2, 3-Dichloro-5-Trifluoromethyl pyridine (2, 3-DC5TFMP) have been recorded in the regions 4000-400cm^{-1} and 3500-100cm^{-1}, respectively. The optimized geometric parameters, normal mode frequencies and corresponding vibrational assignments of the present sample are theoretically examined by means of B3LYP 6-311G ++ basis set. Besides, reliable vibrational assignments made on the basis of potential energy distribution. A close agreement was achieved between the observed and calculated frequencies by refinement of the scale factors. HOMO and LUMO analysis shows that charge transfer happens within the molecule. Mullikan investigation and the first order molecular hyperpolarizability of the compound were estimated. The UV-Vis spectrum and ^{1}H and ^{13}C NMR chemical shifts of the molecule were studied. Furthermore, Thermodynamic properties, NLO and MESP were likewise assessed and interpreted. Comparison of simulated spectra with the ...rimental spectra gives significant information about the ability of the computational technique to portray the vibrational ...

...words: 2, 3-DC5T5MP, DFT, TD-DFT, HOMO, LUMO

1. Introduction

Vibrational spectra of substituted pyridine acquired big interest within the spectroscopic perspective of their obvious importance to biological systems and industrial significance. Literature survey reveals that substituted pyridine derivatives find applications in numerous fields such as paints, dyes, rubber products, adhesives, non-linear optical materials, photochemical and agricultural products. [1-10] A large amount of intermolecular association is possible in pyridine ring system due to its polarity. Detailed knowledge on the structures and spectral behaviour of pyridine derivatives is a necessary prerequisite for understanding, its chemical and biological properties. Herein, we describe our outcomes on various analyses of 2, 3-DC5TFMP through spectral measurements.

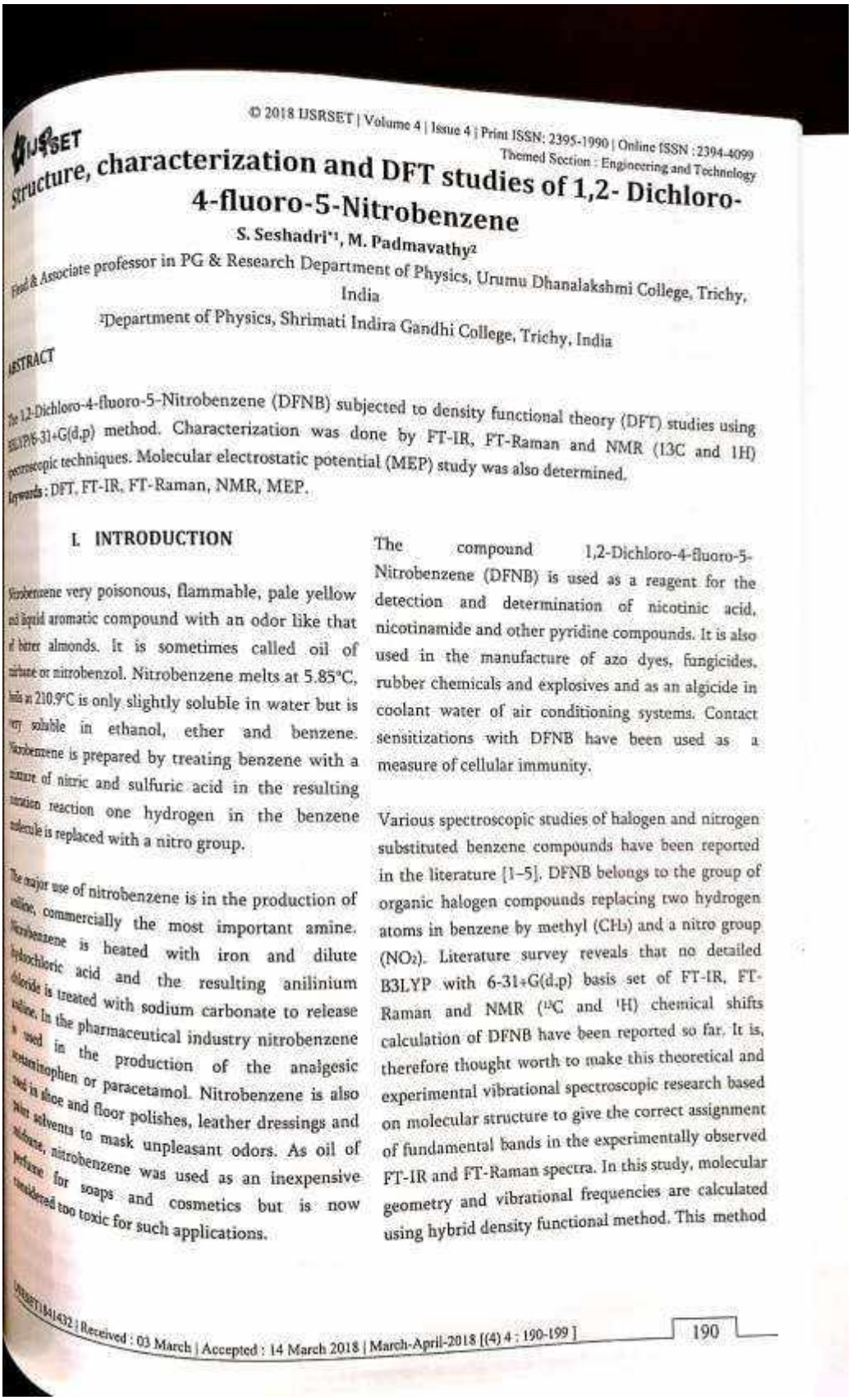
2. Materials and Methods

The fine sample of 2, 3-DC5TFMP was obtained from Sigma Aldrich, UK, and used as such for the spectral measurements. The room temperature FTIR spectrum of the compound was measured in the 4000–400cm^{-1} region at a resolution of ±1 cm^{-1}, using a BRUKER IFS-66V vacuum Fourier transform spectrometer equipped with a Mercury Cadmium Telluride (MCT) detector, a KBr beam splitter and globar source. The FT-Raman spectrum of 2, 3-DC5TFMP was recorded on a BRUKER IFS–66V model interferometer equipped with an FRA–106 FT-Raman accessory. The spectrum was recorded in the 3500–50 cm^{-1}. Stokes region using the 1064 nm line of an Nd: YAG laser for the excitation operating at 200 mW powers. The reported wave numbers are expected to be accurate to within ±1 cm^{-1}.

2.1 Computational Details

The molecular geometry optimization, energy and vibrational frequency calculations were done for 2, 3-DC5TFMP with the standard density functional triply parameter hybrid model DFT/ B3LYP. The 6-311 G ++ (d,p) basis set have been employed using the Gaussian 09 program [11]. Harmonic vibrational wavenumbers have been calculated using analytic second derivatives to confirm the convergence to minima on the potential energy surface and to evaluate the zero-point vibrational energy [12]. These force fields obtained in Cartesian coordinates and dipole derivatives with respect to atomic displacements were extracted from the archive section of the Gaussian 09 output and transformed to a suitably defined set of internal coordinates. The optimized geometrical parameters, IR intensity, Raman intensity, the atomic charges, dipole moment, reduced mass, force constant and other thermodynamic parameters were additionally figured. Scaling of the force field was performed according to the SQM procedure [13, 14] using selective scaling in the natural internal coordinate representation. [15, 16] The calculation of the potential energy distribution (PED) and the prediction of IR and Raman intensities were done on a PC with the MOLVIB program written by Sundius. [17, 18] For the plots of simulated IR and Raman spectra, pure Lorentzian band shapes were used with a bandwidth of 10 cm^{-1}. The symmetry of the molecule was also useful in making vibrational assignments. By combining the results of the Gauss view program [19] with symmetry considerations, vibrational frequency assignments

3.3.2. Number of research papers per teacher in the Journals notified on UGC



© 2018 IJSRSET | Volume 4 | Issue 4 | Print ISSN: 2395-1990 | Online ISSN : 2394-4099
Themed Section : Engineering and Technology

Structure, characterization and DFT studies of 1,2- Dichloro-4-fluoro-5-Nitrobenzene

S. Seshadri*[1], M. Padmavathy[2]

[1]Head & Associate professor in PG & Research Department of Physics, Urumu Dhanalakshmi College, Trichy, India

[2]Department of Physics, Shrimati Indira Gandhi College, Trichy, India

ABSTRACT

The 1,2-Dichloro-4-fluoro-5-Nitrobenzene (DFNB) subjected to density functional theory (DFT) studies using B3LYP/6-31+G(d,p) method. Characterization was done by FT-IR, FT-Raman and NMR (13C and 1H) spectroscopic techniques. Molecular electrostatic potential (MEP) study was also determined.

Keywords: DFT, FT-IR, FT-Raman, NMR, MEP.

I. INTRODUCTION

Nitrobenzene very poisonous, flammable, pale yellow oil liquid aromatic compound with an odor like that of bitter almonds. It is sometimes called oil of mirbane or nitrobenzol. Nitrobenzene melts at 5.85°C, boils at 210.9°C is only slightly soluble in water but is very soluble in ethanol, ether and benzene. Nitrobenzene is prepared by treating benzene with a mixture of nitric and sulfuric acid in the resulting nitration reaction one hydrogen in the benzene molecule is replaced with a nitro group.

The major use of nitrobenzene is in the production of aniline, commercially the most important amine. Nitrobenzene is heated with iron and dilute hydrochloric acid and the resulting anilinium chloride is treated with sodium carbonate to release aniline. In the pharmaceutical industry nitrobenzene is used in the production of the analgesic acetaminophen or paracetamol. Nitrobenzene is also used in shoe and floor polishes, leather dressings and other solvents to mask unpleasant odors. As oil of mirbane, nitrobenzene was used as an inexpensive perfume for soaps and cosmetics but is now considered too toxic for such applications.

The compound 1,2-Dichloro-4-fluoro-5-Nitrobenzene (DFNB) is used as a reagent for the detection and determination of nicotinic acid, nicotinamide and other pyridine compounds. It is also used in the manufacture of azo dyes, fungicides, rubber chemicals and explosives and as an algicide in coolant water of air conditioning systems. Contact sensitizations with DFNB have been used as a measure of cellular immunity.

Various spectroscopic studies of halogen and nitrogen substituted benzene compounds have been reported in the literature [1–5]. DFNB belongs to the group of organic halogen compounds replacing two hydrogen atoms in benzene by methyl (CH_3) and a nitro group (NO_2). Literature survey reveals that no detailed B3LYP with 6-31+G(d,p) basis set of FT-IR, FT-Raman and NMR (^{13}C and ^{1}H) chemical shifts calculation of DFNB have been reported so far. It is, therefore thought worth to make this theoretical and experimental vibrational spectroscopic research based on molecular structure to give the correct assignment of fundamental bands in the experimentally observed FT-IR and FT-Raman spectra. In this study, molecular geometry and vibrational frequencies are calculated using hybrid density functional method. This method

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Anitha and Sakthivel, J Nanomater Mol Nanotechnol 2015, 4:5
http://dx.doi.org/10.4172/2324-8777.1000170

Journal of Nanomaterials & Molecular Nanotechnology

Research Article

A SCITECHNOL JOURNAL

Microwave Assisted Synthesis and Characterization of Silver Nanoparticles using Tridax procumbens and its Anti-Inflammatory Activity against Human Blood Cells

Anitha P[1] and Sakthivel P[1]*

Abstract

Nature has been a source of medicinal agents for thousands of years and an impressive number of modern drugs have been isolated from natural resources. Traditional medicine is an important source of potentially useful new compounds for the development. The plant extract is mixed with $AgNO_3$ and incubated. The synthesised silver nanoparticle was confirmed by colour transformation. It was characterized by UV-Vis spectroscopy, FTIR, XRD & TEM. In general, the sizes of nanoparticles were found to be 1-100nm. The results showed that the leaf extract is optimum for the synthesis of silver nanoparticles and it is also known to have the ability to inhibit the growth of various pathogenic microorganisms. The size of synthesized silver nanoparticles is found to be 35.84 nm using XRD data by Scherrer's formula, which is approximately similar as the size obtained in TEM analysis (35.71 nm). In totality, the AgNPs prepared are safe to be discharged in the environment and possibly utilized in processes of pollution remediation. AgNPs may also be efficiently employed in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study. The anti-inflammatory activity of silver nanoparticles was tested and confirmed against human blood cells. Hence, the present research aims to open new avenues for the improvement of medicinal uses with the synthesis of silver nanoparticles by using Tridax procumbens extract for various ailments and to bring the anti-inflammatory medicinal plant to the scientist's notice, to educate awareness and add values to the resource.

Keywords

Tridax procumbens; Silver nanoparticles; UV-Vis spectroscopy; FTIR; TEM; XRD; Human blood cells

Introduction

India has been known to be rich repository of medicinal plants. Ayurveda is widely practiced in India. The emphasis on development of biologically active new molecules has been gradually replaced by the use of total herbs as medicine and food supplements. Weeds are not really "unwanted" especially in terms of traditional herbal medicines. These "naturally growing plants" are generally known as a group of very aggressive, noxious, competitive and troublesome plants [1,2]. Tridax procumbens L. is a common medicinal herb used by ethno-medical practitioners, belonging to family Asteraceae. Nanotechnology is one of the modern techniques of the material science. The small sized nanoparticle means they exhibit enhanced or different properties when compared with the bulk materials. The extremely small size of nanoparticles have large surface area relative to their volume. Especially, silver have drawn the attention of scientists because of their extensive application in the development of new technologies in the areas of electronics, material sciences and medicine at the nanoscale [3-5].

New applications of nanoparticles and nanomaterials are emerging rapidly [6-8]. Nanocrystalline silver particles have found tremendous applications in the field of high sensitivity biomolecular detection and diagnostics [9], antimicrobials and therapeutics [10,11], Catalysis [12] and micro-electronics [13]. However, there is still need for economic, commercially viable as well as environmentally clean synthesis route to synthesize silver nanoparticles. Chemical synthesis methods lead to presence of some toxic chemical absorbed on the surface that may have adverse effect in the medical applications. The plant also shows various pharmacological activities like Immunomodulatory, Antidiabetic, Anti hepatotoxic & Anti-oxidant, Anti-inflammatory, Analgesic, and marked depressant action on respiration [14-24].

Tridax procumbens is known for several potential therapeutic activities like antiviral, antioxidant, wound healing activity, insecticidal and anti-inflammatory activity [25]. Some reports from tribal areas in India state that the leaf juice can be used to cure fresh wounds, to stop bleeding and used as hair tonic. Despite these known benefits, it is still listed in the United States as a Noxious Weed and regulated under the Federal Noxious Weed Act. Traditionally, Tridax procumbens has been in use in India for wound healing, as anticoagulant, antifungal and insect repellent. It is also used in diarrhoea and dysentry. It's leaf extracts were known to treat infectious skin diseases in folk medicines. It is a well-known ayurvedic medicine for liver disorders or hepato-protective nature besides gastritis and heart burn [26]. The objective of this study is the synthesis and characterization of silver nanoparticle by biologically important leaf extract like Tridax procumbens.

Materials and Methods

Collection of leaf

Fresh leaves of Tridax procumbens were collected from Perambalur, during the month of May and identified by Dr. John Britto, The Director, The Rabinat Herbarium and Center for Molecular Systematics, St. Joseph's College(Campus), Trichirappalli-2, Tamil Nadu, India. (Plant authentication no: PN006).

Preparation of leaf extract

The fresh young leaf sample of Tridax procumbens was collected and washed thoroughly with sterile double distilled water (DDW). Twenty gram of sterilized leaf samples were taken and cut into small pieces. Finely cut leaves were placed in a 500 ml Erlenmeyer flask containing 100 ml of sterile DDW. After that the mixture was boiled for 5 mins and filtered. The extract was stored in 4°C.

*Corresponding authors: Sakthivel P, Department of Physics, Urumu Dhanalakshmi College (Autonomous) Trichy, TamilNadu, India, Tel: +91 9443932793; E-mail: sakthi2udc@gmail.com

Received: October 29, 2015 Accepted: November 12, 2015 Published: November 16, 2015

SciTechnol

All articles published in Journal of Nanomaterials & Molecular Nanotechnology are the property of SciTechnol, and is protected by copyright laws. Copyright © 2015, SciTechnol, All Rights Reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Physica B 525 (2017) 164–174

Contents lists available at ScienceDirect

Physica B

journal homepage: www.elsevier.com/locate/physb

Growth and characterization of an efficient new NLO single crystal L-phenylalanine D-methionine for frequency conversion and optoelectronic applications

P. Sangeetha[a], P. Jayaprakash[b], M. Nageshwari[c], C. Rathika Thaya Kumari[c], S. Sudha[a], M. Prakash[c], G. Vinitha[d], M. Lydia Caroline[b,*]

[a] PG & Research Department of Physics, Arignar Anna Govt. Arts College, Cheyyar 604407, Tamil Nadu, India
[b] Department of Physics, Dr Ambedkar Govt. Arts College, Vyasarpadi, Chennai 600039, Tamil Nadu, India
[c] PG & Research Department of physics, Urumu Dhanalakshmi College, Thiruchirappalli 620019, Tamil Nadu, India
[d] Department of Physics, School of Advanced Sciences, VIT, Chennai 600127, Tamil Nadu, India

ARTICLE INFO

Keywords:
Nonlinear optical material
X-ray diffraction
Optical properties
Dielectric
Fluorescence
Third harmonic generation

ABSTRACT

Optically active single crystals of L-phenylalanine D-methionine (LPDM) were grown by slow evaporation technique by co-crystallization of amino acids L-phenylalanine and D-methionine in water. The unit cell dimensions have been identified from single crystal X-ray diffraction technique. The existences of various hydrocarbyls were examined by FTIR and FT-Raman spectroscopy. The carbon and hydrogen environment of the grown crystals were analyzed by FT NMR spectrum. The optical absorption studies show that the crystal is transparent in the visible region with a lower cut-off wavelength of 259 nm and there by optical band gap energy E_g is calculated to be 5.35 eV. The Urbach energy, extinction coefficient, reflectance were calculated from UV-absorption data. Further, the thermal stability and accurate melting point has been investigated by TG/DSC techniques. The Kurtz powder SHG was confirmed using Nd:YAG laser with fundamental wavelength of 1064 nm. The dielectric behavior of the specimen has been determined for various temperatures (313 K, 333 K, 353 K, 373 K) at different frequencies. Fluorescence study and the time resolved decay calculation was also performed for the LPDM crystal. Optical nonlinear susceptibility was measured in LPDM and the real and imaginary part of χ^3 was evaluated by Z-scan technique using open and closed apertures.

1. Introduction

From the past few decades it was observed that the amino acid based compounds have potential nonlinear optical (NLO) behavior and disclose good mechanical strength [1]. Nonlinear optical materials are proved to be a suitable candidate for photonics and optoelectronic industries [1]. These materials are efficiently utilized for frequency conversion, optical switching, device fabrication, and large capacity communications because, further application of these may be provided in all optical systems. Among organic and inorganic materials, the organic one shows extremely outstanding characteristics of NLO behavior due to weak Vander Waals forces and hydrogen bonds with conjugate π electrons [1]. Amino acids based materials catches the attention in the field of NLO applications as they contain a proton donor carboxylic acid (COOH) group and the proton accepter amino (NH_2) group in them [2]. Nowadays crystallization is one of the most important separation and purification processes in the pharmaceutical and chemical industries. One method for race mate separation is "resolution by entrainment", which is usually referred to as preferential crystallization also adopted for growing nonlinear optical crystals [3]. Anisotropic L-phenylalanine has many different positive effects anxiety relief with increased focus and concentration, and improved motivation [4]. Methionine is one of the sulfur containing amino acid which it is structurally different from other amino acids. Optically active methionine is required in the human diet for normal metabolism and growth, since it is synthesized in humans. D-methionine is often used as an additive in animal feedstuffs, and it is also used in production of medicines and active pharmaceutical ingredients, and as a precursor to other amino acids [3]. The growth and characterization of complexes of L-phenylalanine single crystals were reported in the literature earlier [5–7]. L-phenylalanine D-methionine (LPDM) is the simplest acentric member of the family crystallized by Yamamoto et al. [8]. Our present work was carried out to harvest optically clear crystals from L-phenylalanine and D-methionine taken in the equimolar ratio (1:1)

* Corresponding author at: Department of Physics, Dr Ambedkar Govt. Arts College, Vyasarpadi, Chennai 600039,Tamil Nadu, India
E-mail address: lydiacaroline2006@yahoo.co.in (M. Lydia Caroline).

http://dx.doi.org/10.1016/j.physb.2017.08.037
Received 8 July 2017; Received in revised form 15 August 2017; Accepted 16 August 2017
Available online 18 August 2017
0921-4526/ © 2017 Elsevier B.V. All rights reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Indo American Journal of Pharmaceutical Research, 2016 ISSN NO: 2231-6876

INDO AMERICAN JOURNAL OF PHARMACEUTICAL RESEARCH

SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES USING ALLIUM CEPA AND ITS ANTI-INFLAMMATORY ACTIVITY AGAINST HUMAN BLOOD CELLS

P. Anitha[1], P. Sakthivel[2*]

[1]Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamilnadu, India.
[2*]Associate Professor, Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India.

ARTICLE INFO

Article history
Received 10/01/2016
Available online
31/01/2016

Keywords
Allium Cepa,
Silver Nanoparticles,
UV-Vis Spectroscopy,
FTIR, TEM, XRD,
Human Blood Cells, Etc.,

ABSTRACT

In this paper, we report for the first time the use of onion leaf (Allium cepa) in the biosynthesis of silver nanoparticles (AgNPs) under microwave irradiation. Influence of various reaction parameters such as microwave irradiation power and microwave irradiation time was analyzed. The synthesized nanomaterial was characterized by UV-visible absorption spectroscopy and Fourier transforms infrared spectrum analysis. X-ray diffraction (XRD) and transmission electron microscopy (TEM) analysis confirms the formation and the crystalline nature of the synthesized nanomaterial. The average size of particle is found to be 22.62nm and 22.2nm by XRD and TEM analysis respectively. Further, these nanoparticles were found to exhibit AgNPs which may also be efficiently employed in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study. The anti-inflammatory activity of silver nanoparticles was tested and confirmed against human blood cells. The leaf of Allium cepa has good anti-inflammatory activity. Hence, the present research aims to open new avenues for the improvement of medicinal uses with the synthesis of silver nanoparticles by using Allium cepa extract for various ailments and to bring the anti-inflammatory medicinal plant to the scientist's notice, to educate awareness and add values to the resources.

Corresponding author
P. Anitha
Assistant Professor,
Department of Physics,
Roever College of Engineering and Technology,
Perambalur,Perambalur, TamilNadu, India.
Email: anithasai2013@gmail.com
Phone: 9787663468

Please cite this article in press as P. Anitha et al. Synthesis and characterization of silver nanoparticles using Allium cepa and its Anti-inflammatory activity against human blood cells. Indo American Journal of Pharmaceutical Research.2016:6(01)

Copy right © 2016 This is an Open Access article distributed under the terms of the Indo American journal of Pharmaceutical Research, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Growth and Characterization of Chloro Bis Thiourea Mercury (II) Chloride (CBTMC) Grown by Slow Evaporation Technique for Nonlinear Optical Applications

M. Peer Mohamed, S. Sudha, M. Nageshwari, P. Jayaprakash, P. Sangeetha, M. Prakash and M. Lydia Caroline

Abstract A noncentrosymmetric hard anisotropy crystals of Chloro bis thiourea mercury (II) chloride (CBTMC),[HgCl $[CS(NH_2)_2]_2Cl$], was synthesized using water as solvent and grown by slow solvent evaporation method and its properties are reported for the first time to attest its suitability in nonlinear optical applications. CBTMC single crystals possessing good morphology with size up to 0.6 × 0.4 × 0.2 cm^3 were collected from the crystallization vessels after 12 days. Crystallography structure diffraction analysis using X-radiation confirms the non-centrosymmetric (polar) space group P_{mma}, which is the key requirement to exhibit nonlinear optical activity. The crystals are analyzed by powder X-ray diffraction (PXRD) to assess the good crystalline nature. The existence of various functional groups in the synthesized compound were manifested and examined by FTIR spectrum. The thermal analysis disclosed the maximum temperature of operation of 253 °C for CBTMC. The EDAX spectrum emphasized the presence of mercuric chloride in the metal complex. CBTMC crystal was subjected to SEM analysis and it divulged the surface topographies. The UV-Visible spectra revealed the absorption edge down to near UV absorption wavelength at 213 nm, which is a

M. Peer Mohamed · S. Sudha · M. Nageshwari · P. Jayaprakash · P. Sangeetha · M. Lydia Caroline (✉)
PG & Research Department of Physics, Arignar Anna Govt. Arts College, Cheyyar 604407, Tamil Nadu, India
e-mail: lydiacaroline2006@yahoo.co.in

M. Peer Mohamed
Department of Physics, C. Abdul Hakeem College, Melvisharam 632509, Tamil Nadu, India

M. Prakash
PG & Research Department of Physics, Urumu Dhanalakshmi College, Thiruchirappalli 620019, Tamil Nadu, India

© Springer International Publishing Switzerland 2017

J. Ebenezar (ed.), *Recent Trends in Materials Science and Applications*, Springer Proceedings in Physics 189, DOI 10.1007/978-3-319-44890-9_48

3.3.2. Number of research papers per teacher in the Journals notified on UGC

THOMSON REUTERS
ENDNOTE

ISSN: 2277-9655
(I2OR), Publication Impact Factor: 3.785

IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

CERTIFICATE

This certificate is issued on behalf of publication of your manuscript in IJESRT 5(3), March 2016, below is your manuscript details-

Manuscript Title:

"CHARACTERIZATION OF MICROSTRUCTURE AND DETERMINATION OF ELASTIC PROPERTIES IN SAF 2205 DUPLEX STAINLESS STEEL USING ULTRASONIC MEASUREMENTS."

Authors:

R. Jayachitra*

Date Issued:

March, 25, 2016

URL:

http://ijesrt.com/issues%20pdf%20file/Archive-2016/March-2016/119_CHARACTERIZATION%20OF%20MICROSTRUCTURE%20AND%20DETERMINATION%20OF%20ELASTIC%20PROPERTIES%20IN%20SAF%202205%20DUPLEX%20STAINLESS%20STEEL%20USING%20ULTRASONIC%20MEASUREMENTS.pdf

Sincerely,
Prof. Jitendra Singh Chouhan
Editor, IJESRT

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Int J Pharm Bio Sci 2015 April; 6(2): (P) 526 - 531

search Article

Polymer Science

International Journal of Pharma and Bio Sciences

ISSN 0975-6299

YNTHESIS AND CHARACTERIZATION OF NANO HYDROXYAPATITE WITH PECTIN CITRUS (BIO-POLYMER) FOR BIOMEDICAL APPLICATION

K. SENTHILARASAN AND P. SAKTHIVEL*

Department of physics, Urumu Dhanalakshmi College, Tiruchirappalli-620019.

ABSTRACT

Hydroxyapatite (HAp) is a biocompatible ceramic that is widely used in a number of biomedical applications and devices. Due to the close similarity between nanometer scale forms of HAp and the mineral phase found in the natural bone matrix, it has gained increased importance in recent years. Pectin is a naturally occurring polysaccharide. The benefits of pectin are appreciated by scientists due to its biodegradability. HAp/PC nano composite could be more useful for treatment of oral bone defects in comparison with conventional of nHAp/Pc and could be more effective as a bone replacement material to promote bone formation. FTIR, XRD, TEM, TG/DTA was used to identify the functional groups, phase structure, morphology and thermal stability of the synthesized composite. The result of these studies indicated that the powders were biocompatible and would not cause toxic reactions. This powder sample could be applied for biomedical application.

KEYWORDS: Hydroxyapatite,Pectin Citrus, FTIR, XRD, TEM, TG/DTA.

P. SAKTHIVEL
Department of physics, Urumu Dhanalakshmi College, Tiruchirappalli-620019.

*Corresponding author

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Contents lists available at ScienceDirect

Journal of Luminescence

Journal homepage: www.elsevier.com/locate/jlumin

...e emission from Fe doped ZnO nanoparticles synthesized ...cipitation method

...ana [a,*], M. Jay Chithra [b], Suhashini Ernest [a], K. Pushpanathan [b]

...Department of Physics, Urumu Dhanalakshmi College, Tiruchirapalli 620019, India
...Research Laboratory, Department of Physics, Government Arts College, Karur 639005, India

...CLE INFO

...ber 2015
...in revised form
...ber 2015
...December 2015
...ailable online 22 February 2016

ABSTRACT

In this article we have reported the synthesis of Fe doped zinc oxide nanoparticles by the chemical precipitation method. The structural, compositional and optical properties have been examined by powder X-ray diffractometer, scanning electron microscope, transmission electron microscope, ultraviolet-visible and spectrophotometer. X-ray diffraction analysis confirmed the crystallites are in nanometer size and the sample contains polycrystals with hexagonal wurtzite structure. The average crystallite size has been found to increase from 25 nm to 36 nm with increase in Fe concentration. Scanning electron microscope result also confirmed the nanosize of the particles. Ultraviolet-visible spectrum of Fe doped zinc oxide shows a red shift with respect to undoped zinc oxide. The band gap of the samples was calculated from ultraviolet-visible spectrum and it is narrow from 3.30 eV to 3.23 eV with increasing Fe dopant upto 6%. The stretching bonds in Zn- Fe-O have been observed in FTIR spectra.

© 2016 Published by Elsevier B.V.

...duction

...oxide is an II-VI group semiconductor material with the ...ap. It has several constructive properties, including good ...ency, high electron mobility, wide bandgap (3.37 eV) in ...ation with the high exciton binding energy (60 meV), and ...room-temperature luminescence [1]. Advantages asso... with a large band gap include higher breakdown voltage ...ability to sustain large electric fields, lower electronic noise, ...-temperature and high-power operation. The high exciton ...energy gives the stability against thermal dissociation of ...s that is necessary for optoelectronic devices [2]. These ...es are used in emerging applications for transparent ...des in liquid crystal displays, in energy-saving and heat-...ing windows, and in thin-film transistors and light-...g diodes.

...the last few years, several research groups are investigating ...sition metal (TM=Ti, V, Cr, Mn, Fe, Co, Ni, Cu, etc.) doped ...anoparticles for their interesting optical and magnetic ...ies [3]. Transition metal doped ZnO nanoparticles are also ...d as diluted magnetic semiconductors (DMSs). Of various ...ese metals, Fe is an excellent impurity candidate to syn... DMSs and its outstanding properties attract increasing ...on of the materials scientists [4]. Due to its forthcoming technological applications in emerging field of spin-based electronics, a lot of researches are going on the magnetic and optical properties of Fe-doped ZnO nanoparticles [5,6]. It is interesting to note that Fe doping results different emissions in different nanostructures. For instance, inclusion of Fe ions in ZnO nanoparticle enhances the visible emission of green color (583 nm) while suppresses the ultra-violet (UV) emission. Conversely, Baek et al. [7], reported that Fe doping increases the UV emission. Similarly, in ZnO nanocantilever arrays, Fe doping results in green emission. In the case of ZnO nanorods, Fe doping enhanced the deep level photoluminescence (PL) intensity [8,9]. This result reveals that the PL properties of ZnO can be tuned by doping with Fe ions. Further, it has been reported that Fe doped ZnO nanoparticles have poor crystallinity and high surface area. Consequently, it has higher catalytic activity and sensing property than both pure ZnO and Fe_2O_3 system [10].

Regarding magnetic property, some experimental results are favorable for the existence of room temperature ferromagnetism in Fe doped ZnO nanoparticles, while some other experimental results are contradictory. For example, Anghel et al. [11] have compared the ferromagnetism of various TM doped ZnO nanoparticles as a function dopant concentration. Their studies clearly suggest that the ferromagnetic property of ZnFeO nanoparticles strongly depends on the Fe dopant and that the ferromagnetic moment is strongest for Fe doping. Likewise, paramagnetism and anti-ferromagnetic interactions in Fe doped ZnO nanoparticles have been observed by Pereira et al. [12]. Another study proves that ferromagnetism arises due to substitution of Fe ions in Zn

...ponding author. Tel.: +91 9952131264.
...l address: ...anchana93@gmail.com (S. Kanchana).

...g/10.1016/j.jlumin.2015.12.047
...2016 Published by Elsevier B.V.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRSET JULY 2016 Volume 3, Issue 7

Pages: 1-5

ISSN 2394-739X

International Journal for Research in Science Engineering and Technology

LEADING ORDER CALCULATION OF POLARIZED STRUCTURE FUNCTIONS AND PROTON ASYMMETRY BY THE METHOD OF STATISTICAL APPROACH

[1] K. Ganesamurthy, [2] C. Ramesh, [3] A. Mosesraj, [4] V. Rajagopal.

[1, 2] PG and Research Department of Physics, [3] Government Higher Secondary School, [4] Project Directorate,
[1, 2] Urumu Dhanalakshmi College, [3] Onthampatty, [4] RashtriyaMadhyamikShikshaAbhiyan, DPI Campus,
[1, 2] Trichy 620 019, [3] Trichy- 621 302, [4] Chennai – 600 006
[1, 2, 3, 4] Tamil Nadu, India.

Abstract:-

We evaluate the proton Asymmetry $A_1^p(x)$ in the kinematic region $0.1 < x < 0.7$ for $Q^2 = 1 GeV^2$ using Thermodynamical bag Model(TBM). The theoretical prediction is compared with recent experimental results of COMPASS and SMC. Ourresults are in good agreement with experimental results. Theoretical evaluation of first moment g_1^p at $Q^2 = 3\ GeV^2$ is consistent with experimental results.

Keywords: - DIS, Structure function, Asymmetry, TBM

1. INTRODUCTION

Quantum Chromo Dynamics(QCD) theory is mostly accepted for describing the strong interactions[1]. Ever since the quark-spin contribution for the spin of the proton was determined by EMC and it was not fulfilled the all determinations. The polarized Deep Inelastic Scattering(DIS) of nucleon experiment is an important tool to investigate the inner structure of the nucleon. The improved accuracy of data collected by experiments at CERN and SLAC in past few years has motivated and allowed perturbative Quantum Chromo Dynamics(pQCD) analyses of the nucleon spin dependent structure functions at NLO[2-3]. The spin structure of the nucleon is composed by intrinsic quark spin, orbital angular momentum of quarks and gluon spin.Mathur[4] estimated the quark orbital angular momentum of the nucleon on the basis of lattice QCD approach. From this calculation, the total angular momentum of quarks carried60% of the proton spin and 40% proton spin is originated by the gluon orbital angular momentum. In naive quark model, three valence quarks provide the quantum numbers of proton which gives the sum of the quark spins should be equal to the proton spin. It is observed from Ellis-Jaffe integral that the sum of helicities much smaller than the value of half which gives to rise the proton "spin puzzle".

The spin dependent structure in deep inelastic lepton nucleon scattering is important tool for untravelling the quark and gluon spin distribution inside a nucleon. From the past decade the structure function is focused on kinematic dependence to study the polarized quark and gluon distribution function. In recent years, the polarized deep inelastic scattering experiments demonstrated by COMPASS[5-6] and SMC[7] for the investigation of spin structure and quark distribution function inside the nucleon. At finite Q^2 the structure function is violated due to the gluon radiation by both initial and scattered

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Advanced Research and Development
ISSN: 2455-4030
Impact Factor: RJIF 5.24
www.advancedjournal.com
Volume 2; Issue 6; November 2017; Page No. 513-524

Spectroscopic (FT-IR and FT-Raman, UV, NMR, NBO and NLO) Analysis and DFT Computations of 2Chloro-5-Trifluoromethyl Pyridine

[1] R Sangeetha, [*2] S Seshadri, [3] Rasheed MP
[1] Research Scholar, PG and Research Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India
[2] Associate Professor and Head, PG and Research Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India
[3] Research Scholar, PG and Research Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India

Abstract
In this work, the vibrational spectral analysis was carried out using Raman and Infrared spectroscopy (solid phase) in the range 4000-400cm^{-1} and 3500 cm^{-1}, respectively, for the 2-Chloro-5-Trifluoromethyl pyridine (2C5TFMP).Simulation of Infrared and Raman spectra utilizing the results of these calculations led to good agreement with the observed spectral patterns. The complete assignments were performed on the basis of the potential energy distribution (PED) of the vibrational modes, calculated with scaled quantum mechanics (SQM) method. The molecular structure and fundamental vibrational frequencies have been obtained from density functional theory (DFT) B3LYP methods with 6-311++G (d, p) basis set calculations. The investigation in view of NMR chemical shift, First Order Hyperpolarizability, Molecular Electrostatic Potential Map (MESP) and Thermo dynamical functions have been carried out. The observed HOMO LUMO mappings reveal the charge transfer possibilities within the molecule. Natural Bond Orbital analysis, Mulliken charges, electrostatic potential charges are also computed.

Keywords: HOMO LUMO, DFT, hyperpolarizability, Mulliken charges

1. Introduction
Pyridine is a heterocyclic fragrant compound filling in as the parent compound of numerous biologically significant derivatives. It has been used very frequently as a proton acceptor in studies involving hydrogen bonded complexes [1]. Vibrational spectra of substituted pyridine got extensive deration in the spectroscopic perspective of their obvious cance to natural frameworks and mechanical lness [3, 4]. Pyridine heterocycles and its derivatives are a cated moiety in many large molecules with interesting photo chemical, electrochemical and catalytic applications [9, 10]. To the best of our knowledge, neither the vibrational analysis nor the quantum chemical study of 2Chloro-5-Trifluoromethyl pyridine has been reported.

2. Materials and Methods
The compound under investigation 2C5TFMP namely was procured from Sigma–Aldrich chemicals, U.S.A with a stated purity of greater than 98%. The compound was used as such without further purification. The FT-IR spectrum of the compound was recorded in the region 3500–400cm^{-1} on a Perkin Elmer FT-IR Spectrophotometer. The FT-Raman spectrum of the title compound was recorded in the Bruker FRA 106/S instrument equipped with Nd: YAG laser source operating at 1064 nm line widths in the range of 3500–100cm^{-1}.

2.1 Quantum chemical calculations
The gas phase geometry of the compound under investigation (2C5TFMP) in the ground state was optimized by using DFT/B3LYP(Becke3–Lee–Yang–Parr) level with the standard basis set 6-311++G(d,p) using Gaussian 09W [12] program package, invoking gradient geometry optimization [13]. The scaling factors have to be used to obtain considerably better agreement with experimental data.

2.2 Prediction of Raman Intensities
The Raman activities (Si) calculated with the GAUSSIAN 09 program and adjusted during the scaling procedure with MOLVIB were subsequently converted to relative Raman intensities (Ii) using the following relationship(1) derived from the basic theory of Raman scattering [14, 15].

$$I_i = \frac{f(\nu_0 - \nu_i)^4 S_i}{\nu_i\left[1 - \exp\left(\frac{-hc\nu_i}{kT}\right)\right]} \qquad (1)$$

Where ν_0 is the exciting frequency (in cm-1 units); ν_i is the vibrational wave number of the of the ith normal mode, h, c and k are fundamental constants and f is a suitably chosen common normalization factor for all peaks intensities. Raman activities and calculated Raman intensities are reported in Table.2.

3. Results and Discussion
3.1 Molecular Geometry
Initial geometry generated from standard geometrical parameters was optimized and equilibrium geometry has been determined by the energy minimization. The ground state optimized structure of the molecule is presented in Fig.1.The optimized structure of 2C5TFMP and experimental structures

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Spray Deposited Ni Doped ZnO Nanoparticles for Ammonia Vapour Sensing

by *T. Elavarasan, Suhashini Ernest*, S. Fairose & D. Samson Daniel*

INTERNATIONAL JOURNAL OF ADVANCED SCIENTIFIC RESEARCH & DEVELOPMENT (IJASRD)
e-ISSN: 2395-6089 | p-ISSN: 2394-8906 | Impact Factor: 2.415 | Vol 03, Iss 01, Ver. II, (Jan – Mar'2016) | PP 278 – 292

ABOUT THE AUTHOR(S)

Mr. T. Elavarasan *is an Assistant Professor of Physics in Urumu Dhana Lakshmi College, Trichy. He is a passionate academician in physics, with more than 17 years of accomplished experience in teaching in industry. He has published over 12 articles in national and international referred journals in the area of physics.*

Dr. Suhashini Ernest* *(corresponding author) is a Principal in Kaypeeyes College of Arts & Science, Kotagiri. She is a passionate academician, research supervisor in physics, with more than 30 years of accomplished experience in teaching in industry. She has participated and presented 22 research papers in an international and national conference conducted by various institutions in Tamil Nadu and also published over 13 articles in national and international referred journals in the area of thin film, ultrasonic, etc. She produce 57 M.Phil. / 7 Ph.D. Research Scholars in the field of physics and 3 doctoral scholars are doing their research work under her guidance.*

Ms. S. Fairose *has finished her master degree in Physics in Urumu Dhanalakshmi College, Trichy. She is a passionate research scholar in physics, with more than 2 years of accomplished experience in research work. She has participated & presented 11 research paper in an international conference conducted by various institution in Tamil Nadu and also published one article in an international referred journals in the area of physics. Currently she pursuing her doctoral research in Urumu Dhanalakshmi College, Trichy, under the guidance of Dr. Suhashini Ernest.*

Mr. D. SamsonDaniel *is an Assistant Professor of Physics in School of Physics, Bharathidasan University, Trichy. He is a passionate academician, research scholar in physics, with more than 9 years of accomplished experience in teaching in industry. He has published over four articles in national and international referred journals in the area of physics.*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.jchps.com ISSN: 0974-2115
Journal of Chemical and Pharmaceutical Sciences

Growth and properties of multifunctional spray deposited ZnO thin films for vapor sensor application

Fairose S[1], Suhashini Ernest[1]* and Shaheer Mohammed K.M[2]
[1]PG & Research department of Physics, Urumu Dhanalakshmi College, Trichy-620 019, Tamilnadu, India.
[2]PG & Research department of Physics, J.J College, Pudukottai (Dt.), Tamilnadu, India.
***Corresponding author: E-Mail: ph.dphy20@gmail.com**

ABSTRACT

Simple and economical spray pyrolysis technique (SPT) was employed for the synthesis of multifunctional Zinc Oxide (ZnO) thin film onto glass substrates. The synthesized material was polycrystalline nature as confirmed from X-ray diffraction (XRD). Atomic force microscopy (AFM) image revealed the uniform distribution of roughness 5.8-47 nm. The deposited film was highly transparent with average transmittance of about 75%. The optical transmittance spectrum shows sharp band edge at 310 nm. The gas sensing performance of the spray deposited ZnO films toward to reducing gas like ammonia was also studied.

KEY WORDS: Multifunctional, spray, sensor.

1. INTRODUCTION

For sensor applications, metal oxide semiconductors like SnO_2, ZnO and TiO_2 have been investigated for several decades. Most of them are expected to be excellent candidates to fabricate gas sensors for detecting harmful target gases. As a typical n-type metal oxide semiconductor, ZnO, with a wide band gap (3.37 eV), shows good morphology, tailoring properties, high electron mobility, good chemical stability and low production cost, which are all desirable characteristics for gas sensor. Previous reports have demonstrated that ZnO exhibits good response characteristics to many toxic gases like H_2S, NO_2 and CO, especially for the nanostructures. Due to high specific surface-to-volume ratio, one-dimensional ZnO nanostructures like nanowires, nanotube and nanobelts have been widely adopted to fabricate gas sensor.

In this present work, ZnO thin films were deposited on the glass substrate by using Spray Pyrolysis technique. Structural, morphological and optical studies were carried out to analyze the properties various quantities of precursor solution. Also, the ammonia vapor sensing performance of the sample was studied at 70 ml quantity of precursor solution.

2. EXPERIMENTAL TECHNIQUE

In recent years, the formation of nanostructures and the properties of the metal – oxide thin films depend on the method of synthesis. Over such competing methods, Spray pyrolysis plays a vital role in the synthesis of quality thin films with different nanostructures. It is a modest and inexpensive method used for large area depositions with good uniformity and porosity in films and yields oxide films of high quality at rather low costs when properly controlled. To prepare ZnO thin films, aqueous solution of analytical grade Zinc acetate [$Zn(CH_3COO)_2.2H_2O$] of various quantities of solution is sprayed on glass substrate by masking method. The reaction is given in equation (1).

$$Zn(CH_3COO)_2.2H_2O_{(aq)} \longrightarrow Zn(CH_3COO)_2 + H_2O$$
$$Zn(CH_3COO)_{2(s)} \longrightarrow ZnO_{(s)} + CH_3COCH_{3(g)} + CO_{2(g)} \quad \text{(Equation.1)}$$

3. RESULTS

3.1. Structural properties: The crystal structures of the ZnO nanofilms were characterized via XRD (as shown in Fig. 1). It can be found that all the characteristic peaks of the ZnO nanofilms match well with the diffraction pattern of typical hexagonal wurtzite ZnO structure (JCPDS Card No. 36-1451) and no peaks are observed for other impurities such as $Zn(CH_3COO)_2$ and zinc, indicating the growth of pure ZnO nanofilms and further annealing process is not needed .

The surface topography of the films were observed by atomic force microscopy (AFM) in the tapping mode. Fig. 2(a) and (b) shows the AFM images of ZnO films scanned over an area of 1 cm × 1 cm. It shows that hexagonally faceted columnar grains play a dominant role in the surface morphology. It can be observed that with an increase in quantity of solution, the surface roughness of the films increased. For the quantity of solution (30 ml) the root mean square (RMS) roughness was 5.8 nm. With an increase quantity of solution (70 ml), the RMS roughness has gradually increased to 47 nm. The increase of RMS roughness with the increase of quantity of solution is due to the larger grains formation as well as an increase in the porosity of the films.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056
Volume: 03 Issue: 10 | Oct -2016 www.irjet.net p-ISSN: 2395-0072

Molecular Structure, Spectroscopic(FT-IR,FT-Raman, NMR,UV), HOMO-LUMO Analysis of 1-Bromo-4-Nitrobenzene by Quantum Computational Methods

S.Seshadri [1], R Sangeetha [2], Rasheed .M.P [3], M.Padmavathy [4]

[1](*Associate Professor and Head, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19,Tamilnadu, India*)

[2,3,4](*Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19, Tamilnadu, India*)

Abstract - *This work presents the solid phase FTIR and FT-Raman spectra of 1-Bromo-4-Nitrobenzene (1B4NB) were recorded in the regions 4000-400 cm^{-1} and 3500-50 cm^{-1}, respectively. The fundamental vibrational frequencies and intensities of the vibrational bands were calculated using density functional theory (DFT) with B3LYP method and standard 6-311++G (d, p) basis set combinations. The infrared and Raman spectra were also predicted from the calculated intensities. The vibrational spectra were interpreted with the aid of normal coordinate analysis based on a scaled quantum mechanical force field. Comparison of simulated spectra with the experimental spectra provided important information about the ability of the computational method to describe the vibrational modes. The calculated and observed frequencies are found to be in good agreement. Theoretical UV-Vis spectrum of the compound and the ...nic properties, such as HOMO (highest occupied ...ular orbital) and LUMO (lowest unoccupied ...cular orbital) energies were obtained by TD-DFT approach. The ^{1}H and ^{13}C nuclear magnetic resonance (NMR) chemical shifts of 1B4NB were calculated using the Guauge Independent Atomic Orbital (GIAO) method. The Mullikan charges of the molecule were computed using DFT calculations. The chemical reactivity and Thermodynamic properties of 1B4NB at different temperatures were also calculated. Information about the size, shape, charge density distribution and site of chemical reactivity of the molecule has been obtained by mapping molecular electron density isosurface with the molecular electrostatic potential.*

Key Words: Vibrational spectra, 1B4NB, FTIR, FT Raman, TD-DFT, HOMO, LUMO.

1. INTRODUCTION

Nitrobenzene is a yellowish, oily, aromatic nitro-compound with an almond-like odour that emits toxic fumes of nitrogen oxides upon combustion. Nitrobenzene is primarily used in the manufacture of aniline, but is also used in the manufacture of lubricating oils, dyes, drugs, pesticides, and synthetic rubber.[1] Nitrobenzene is also used to mask unpleasant odors in shoe and floor polishes, leather dressings, paint solvents, and other materials. Redistilled, as oil of membrane, nitrobenzene has been used as an inexpensive perfume for soaps. The majority of nitrobenzene is used to manufacture aniline, which is a chemical used in the manufacture of polyurethane. [2] The physical and chemical properties of 1-Bromo-4-Nitrobenzene are given below. It is an organic compound with the chemical formula $C_6H_4BrNO_2$ It is also named as p-Bromonitrobenzene and the molecular weight is 202.01 g/mol. This is soluble in ethanol, ethyl ether and benzene .The density of this compound is 1.948 g/mL. It belongs to the product categories of Nitro Compounds; Nitrogen Compounds; Organic Building Blocks. This chemical should be sealed and stored in a cool and dry place. Moreover it should be protected from oxides and light. The vapour pressure of this compound is 0.03 mmHg at 25°C. The Molar refractivity is 40.488 cm^3 and the Molar Volume is 117.46 cm^3.The surface tension of this sample is 50.59 dyne/cm. The boiling point of this sample is 252.635°C at 760 mmHg

2. EXPERIMENTAL DETAILS

The fine sample of 1-Bromo-4-Nitrobenzene was obtained from Sigma Aldrich, UK, and used as such for the spectral measurements. The room temperature FTIR spectrum of the compound was measured in the 4000–400 cm^{-1} region at a resolution of ±1 cm^{-1}, using a BRUKER IFS-66V vacuum Fourier transform spectrometer equipped with a Mercury Cadmium Telluride (MCT) detector, a KBr beam splitter and global source.

The FT-Raman spectrum of 1B4NB was recorded on a BRUKER IFS-66V model interferometer equipped with an FRA-106 FT-Raman accessory. The spectrum was recorded in the 3500–50 cm^{-1} Stokes region using the 1064 nm line of an Nd: YAG laser for the excitation operating at 200 mW powers. The reported

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Chemical, Environmental & Biological Sciences (IJCEBS) Volume 3, Issue 5 (2015) ISSN 2320–4087 (Online)

Synthesis and Characterization of Nano Hydroxyapatite with Polymer Matrix Nano Composite for Biomedical Applications

P.Sakthivel[1]*, and A.Ragu[1]

Abstract—Hydroxyapatite is chemically similar to the mineral component of bone and teeth. A novel nano composite involving nHAp/polymer matrix has been successfully synthesized by wet chemical precipitation method at room temperature. The purpose of synthesizing such nano composite is due to its wide range of properties like biocompatibility, bioactivity, cytotoxicity and mechanical properties. The FTIR spectra of nHAp/polymer matrix indicated significant intermolecular interaction between the various vibrational modes corresponds to phosphate and hydroxyl groups. The results of XRD, TGA/DTA suggested its crystallinity and thermal stability. The size and morphology of the sample were characterized using Transmission Electron Microscopy (TEM).

Keywords— FTIR, TGA/DTA, TEM, XRD.

I. Introduction

HYDROXYAPATITE (HAp) which has molecular stoichiometric formula $Ca_{10}(PO_4)_6(OH_2)$, has been extensively investigated due to its excellent biocompatibility, bioactivity and osteoconductivtity as well as its similarities to the main mineral component of bone. However, it has been reported that HAp in the form of powders, used for the treatment of bone defect, has problems associated with migration to places other than implanted areas. Among them, hydroxyapatite is frequently used in orthopedic, dental and maxillofacial applications, meaning that it supports bone growth and osteointegration [1-3]. Recently, research on the functional bone substitutes such as apatite has been a major subject over the year [4]. Belonging to the family of apatite, nHAp has been widely used as artificial bone substitutes in biomedical applications because of its excellent bioaffinity, osteoinductivity and nanoproperties [5]. Several methods are available for synthesizing HAp based nano structured materials like co-precipitation, sol-gel, and reverse microemulsion, hydrothermal and solid state reaction [6]. Co-precipitation from a apatite polymer matrix aqueous solution is one of the effective and economic methods for nHAp preparation [7]. The microstructure and property of the resulting nHAp powder greatly depends on the properties of the polymer matrix. Hence, in recent years considerable attention has been focused towards the development of polymer composites to fulfill the requirement for biomedical applications.

Some excellent reviews have discussed the various types of degradable polymers and their co-polymers [8-14]. Therefore, this subject will not be discussed in detail in this review. The scope of this paper is to give a perspective of the facts that enter into bone tissue engineering using degradable polymers in particular. Recently, the characteristic of a degradable polymer prior to implantation have been divided into two main categories: biocompatibility and biofunctionality [15]. Biocompatibility refers to the aspects concerning the absence of toxicity, immunologenicity, carcinogenicity and thrombogenicity [15]. Biofunctionality refers to the aspects of adequate properties (mechanical, physical, chemical, thermal and biological) easy to handle, sterilizable, storable and resorbable [15]. Various types of polymers have been combined with calcium phosphates (mainly hydroxyapatite) to prepare nano composites with improved biocompatible and mechanical properties [16-18]. Synthetic polymers were studied as potential matrices of composite materials with hydroxyapatite (HAp) for possible application as bone analogues: Polymethyl methacrylate and Poly vinyl pyrrolidone. Several studies have investigated the synthesis and characterization of hybrid materials based on HAp and biodegradable POLYMERS.

II. Materials and Methods

Materials

The raw materials required to start the processing of the composite were: analytical grade Calcium hydroxide ($Ca(OH)_2$) was purchased from Sigma Aldrich and ammonium dihydrogen phosphate ($(NH_4)\ H_2PO_4$) procured from Mercy (Mumbai, India). Poly vinyl pyrrolidone (mol.wt 40000) was purchased from Sigma Aldrich and Poly methyl mathacrylae were purchased from Alfa Aesar. Doubly distilled water with ethanol was used as the solvent.

Methods

III. Synthesis of HAp/PMMA and PVP nano composites

The First calcium hydroxide was slowly added to a solution

*. 1, Department of Physics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India.620019. email id: physicsragu@gmail.com, sakthiphy13@gmail.com.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Composition Dependent Structural and Optical Properties of Mn Doped ZnO Nanoparticles

Physics

KEYWORDS : Nanoparticle; Semiconductor; Transmittance; Optoelectronics; Wavelength; Quantum

. Kanchana — PG & Research Department of Physics,Urumu Dhanalaksmi College, Tiruchirapalli-620 019, Tamilnadu India.

. Pushpanathan — PG & Research Department of Physics, Government Arts College, Karur- 639 005. Tamilnadu ,India.

ubashini Ernest — PG & Research Department of Physics,Urumu Dhanalaksmi College, Tiruchirapalli-620 019, Tamilnadu India.

ABSTRACT

This article deals with the preparation and characterization of manganese doped zinc oxide nanopowder. Prepared samples were examined by means of x-ray diffractometer, scanning electron microscope, ultraviolet-visible spectrometer, fourier transform infrared spectrometer, and photoluminescence spectrometer to study effect of manganese doping on crystalline size, microstructure, optical properties and energy gap. X-ray diffraction study confirmed the incorporation of manganese ion in place of zinc ion without disturbing the basic hexagonal wurtzite structure of zinc oxide nanocrystal. The average grain size was calculated from the X-ray line broadening and it was found increase for manganese doped samples as compared to undoped zinc oxide. Scanning electron microscope image also confirmed the existence of nano size particle. It is found that the energy gap of the doped zinc oxide decreases with increase of manganese content. Study on photoluminescence properties confirmed the substitution of manganese in zinc oxide through the blue emission in 450-490 nm range.

Introduction

nc Oxide (ZnO) is known from 1935, but it receives great attion for the past two decades only, due to its distinguished rformance in smart devices in the form of nanoparticles [1-. Compared to other wide energy gap metal-oxide nonmate-l, ZnO possesses a very large exciton binding energy (60 eV) room temperature and a wide energy gap of 3.37 eV. It has a able hexagonal structure (wurtzite structure) at room temrature with lattice constant a = 3.251 and c = 5.210 [8] and mposed of a number of alternating planes with tetrahedrallyordinated O^{2-} and Zn^{2+} ions stacked alternatively along the c-ically, it is an II-VI group *n type* semiconductor, having d optical transparency for visible spectrum, even at rier concentration, making ZnO a promising matensparent electronics, optoelectronics, integrated senltra-Violet (UV) light emitters [9], UV nanolasers [10], Photodetectors, photodiodes, high flame detectors [11], nasensors for various gases, blue color light emitting phosphors 2,13], varistors, solar cells. It is well known from the pervious eport that ZnO nanoparticles have advanced optical properties han its bulk form, because of its quantum confinement effect. he electrical property and bandgap of ZnO is almost the same that of Titanium Oxide (TiO_2), however ZnO is more efficient han TiO_2. As mentioned above, ZnO is very useful in solar enerfy conversion, due to wide energy gap it can't be used directly. In rder to reduce the energy gap, it is being doped with the Transition Metals (TM) like Mn, Ni, Cu, Mg, Li, Al, Co, Cr, Fe, V and Ti [14-20]. Of these, Mn doping has attracted the rigorous interest in recent years.

Mn doped ZnO is commonly known as Diluted Magnetic Semiconductors (DMS) that show signs of both ferromagnetism and emiconducting properties [21]. Dietl et al [22] theoretically prefected that Mn doped ZnO would show ferromagnetic behavior with Curie temperature (T_c) above room temperature. Later on, Sharma et al [23], experimentally proved the room temperare ferromagnetism in bulk Mn doped ZnO. Henceforth, an mportant era started towards spintronic devices that use both harge and spin for reading and writing information. Origin f ferromagnetism in this material is still not clear, but for inance, Jayakumar [24] and his research group reported that the the ZnO lattice is the root cause oxides might be responsible for the ferromagnetism in this system [25, 26].

Extensive literature survey revealed that the properties of Mn doped nanoparticles, like the band gap, optical absorbance and transmission, photoluminescence are influenced greatly by the quantum confinement effect. In addition, Mn has more than 10mol% thermal solubility in ZnO and the effective mass of electron is as large as ~0.3 times of free electron mass. Therefore, the amount of injected spins and carriers are large, thus making Mn doped ZnO ideal for spintronic devices. These interesting properties of Mn doped ZnO nanoparticles have increased the scope of research in this material for us.

A variety of methods have been adapted to synthesis Mn doped ZnO nanoparticles. Most of them are conventional high temperature solid state reaction method, in which, controlling the particle properties is complex, and also those are energy consuming and time consuming processes. On the other hand, Mn doped ZnO nanoparticles can be prepared on a large scale at low cost by simple solution based method, such as hydrothermal reaction, chemical precipitation, direct precipitation method and sol-gel synthesis. Among these techniques, direct precipitation method is a promising alternative synthesis method because of its easy procedure, easy control of particle size and property, low-cost processing, coating ability to even large size particle and low temperature process. Wide range of literature review infers that precipitation method is the main method of synthesis of Mn doped ZnO nanoparticles. The powder obtained from this method has uniform doping, smallest particle size with best optical and photocatalytic activity, compared to the powders obtained from the above mentioned methods [27] Due to these reasons, precipitation method has been adopted for the present work.

The main goal of this work is to evaluate the effect of Mn doping on microstructure, crystal structure, optical properties and energy gap of ZnO nanoparticles prepared by precipitation method. Previous experimental reports shows that room temperature ferromagnetism is possible in Mn doped ZnO nanoparticles for a very dilute concentration of Mn of the order of 2% [22]. This has been further confirmed by Rajkumar et al [28], in their work they found ferromagnetism up to 3at % (1.3 at% in EDS analysis) Ullah and J.Dutta [29] have reported

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Emerging Technology and Advanced Engineering
Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 3, Issue 10, October 2013)

Green Synthesis of Alginate Encapsulated Iron Nanoparticles for Decolorization of Dye

Amy Magdalene Paul[1], Aarthi G.[2], Ramya Krishna P.[3], Sakthivel P.[4], Richard Thilagaraj W.[5]
[1]Assistant Professor, Department of Nanotechnology, SRM University, Kattankulathur, Chennai.
[2,3]Department of Nanotechnology SRM University
[4]Associate Professor of Physics, Urumu Dhanalakshmi College, Tiruchirappalli.
[5]Assistant Professor, Department of Biotechnology, SRM University, Kattankulathur, Chennai

Abstract— **The synthesis of iron nanoparticles (Fe NPs) using green tea leaves has been found to be eco friendly (green synthesis) compared to conventional method which uses chemicals. The green tea extract acts as both reducing and capping agent during the synthesis procedure. The iron nanoparticles formed was used for removal of both organic and inorganic pollutants (dyes) from aqueous solutions. The formed Iron nanoparticles were used as catalyst for degradation of dye. Iron nanoparticles contains iron oxides and zero valent iron (ZVI), which can be used as FENTON-like catalyst, where Fenton is used for degradation of aqueous organic solutes. Iron nanoparticles encapsulated with alginate beads were used for degradation of acid and basic dye. The different parameters such as effect of concentration, pH, dosage and ionic strength of the dye were discussed. The result suggests that the iron nanoparticles were more efficient in decolorization of acidic than basic dye.**

Keywords— **Iron nanoparticles, alginate beads, acid and basic dye.**

I. Introduction

Nanoparticles and their applications have gained much importance in recent decades. The properties of bulk materials changed when brought to the nano range. A nano particle has at least one of its dimensions less than 100 nm, but new applications use particles in the range of few hundred nanometers.

The transition from microparticles to nanoparticles can lead to a number of changes in physical properties. Two major factors are the increase in surface area, and the size of the particle moving into the realm where quantum effects predominate.

High surface area is a critical factor in determining the catalytic activity and properties such as increased strength and/or increased chemical/heat resistance.

Zero-valent iron has been used to remediate groundwater by construction of a permeable reactive barrier of zero-valent iron to intercept and dechlorinate chlorinated hydrocarbons such as trichloroethylene in groundwater plumes.

The use of nanoscale zero-valent iron (NZVI) instead of using micro/macro-scale Fe (zero-valent iron) materials could potentially eliminate the need for using PRBs and be more effective in both cost and contaminant remediation. Iron nanoparticle is used for removal of organic and inorganic pollutants from aqueous solutions. Iron nanoparticle contains iron oxides and zero valent iron (ZVI), which can be used as FENTON-like catalyst. Fenton's reagent is a solution of hydrogen peroxide and an iron catalyst which is used to oxidize contaminants in water. Fenton's reagent can be used to destroy organic compounds such as trichloroethylene and tetrachloroethylene.

In green synthesis method the green tea extracts was used for synthesis of Iron nanoparticles. Polyphenols were used as reducing and capping agents.Iron nanoparticles which were synthesized using green tea extract were less susceptible to oxidation and stable. Iron nanoparticles formed were encapsulated with alginate beads to provide resistance to changes in pH or temperature.

The synthesized Iron nanoparticles encapsulated with alginate beads are used for degradation of acidic and basic dye. The different parameters such as effect of concentration, pH, dosage and ionic strength of Iron encapsulated alginate beads on the dye have been discussed in detail.

II. Experimental

MATERIAL USED:

Ferric chloride
Green tea extract
Sodium alginate
Calcium chloride
Acid dye (textile dye)
Basic dye (methelyene green)
Distilled water

3.3.2. Number of research papers per teacher in the Journals notified on UGC

CODEN (USA): IJMPMW | ISSN: 2321-2624

International Journal of Medicine and Pharmaceutical Research

Journal Home Page: www.pharmaresearchlibrary.com/ijmpr

Research Article

Open Access

Synthesis and Characterization of silver nanoparticles using *Phyllanthus acidus* leaf extract and its anti-inflammatory activity against human blood cells

P. Anitha[1], P. Sakthivel[2]*

[1]*Assistant Professor, Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamilnadu, India.*
[2]*Associate Professor, Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India.*

ABSTRACT

An attempt was made to explore the ethno botanical, economical and biological importance of *Phyllanthus acidus*. The plant is used for 28 types of remedies like cathartic, emetic, coughs, hypertension, asthma, skin diseases etc and as a food in the raw form. In India, it is found in different states including Tamilnadu and South Indian states as home garden ornaments. Synthesis and characterization of nanoparticles is under exploration due to its wide medical applications and various research interests in nanotechnology. In the current study, the leaf extract of *Phyllanthus acidus* (Family: Euphorbiaceae) is used for the synthesis of silver nanoparticles. The leaf extract is mixed with $AgNO_3$ and incubated. The synthesized silver nanoparticles were confirmed by color transformation. It was characterized by UV, FTIR, XRD and TEM. The silver nanoparticles synthesized were generally found in size 1-100 nm. The results showed that the leaf extract is optimum for the synthesis of silver nanoparticles and it is also known to have the ability to inhibit the growth of various pathogenic microorganisms. The average size of synthesized silver nanoparticles is found to be 27.9nm using XRD data by Scherrer's formula, which is approximately similar as the size obtained in TEM Analysis (28.6nm). In totality, the AgNPs prepared are safe to be discharged in the environment and possibly utilized in processes of pollution remediation. AgNPs may also be efficiently utilized in Anti-inflammatory activity of Pharmaceutical research to obtain better result of plant as shown by our study. The anti-inflammatory activity of silver nanoparticles was tested against human blood cells which confirms that the plant mediated synthesis of silver nanoparticles have a significant anti-inflammatory activity against human blood cells.

Keywords: *Phyllanthus acidus*, Silver Nanoparticle, UV–Vis Spectroscopy, FTIR, TEM, XRD, Cytotoxity, Human Blood Cells.

ARTICLE INFO

CONTENTS

1. Introduction 96
2. Materials and Methods 96
3. Results and discussion 97
4. Conclusion 99
5. References 99

Article History: Received 26 January 2016, **Accepted** 19 March 2016, **Available Online** 10 April 2016

***Corresponding Author**
P. Sakthivel
Associate Professor, Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India
Manuscript ID: IJMPR2913

PAPER-QR CODE

Citation: P. Sakthivel.Synthesis and Characterization of silver nanoparticles using *Phyllanthus acidus* leaf extract and its anti-inflammatory activity against human blood cells. *Int. J. Med. Pharm. Res.*, 2016, 4(2): 95-99.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.ijraset.com
Value: 13.98
Volume 4 Issue VIII, August 2016
ISSN: 2321-9653
International Journal for Research in Applied Science & Engineering Technology (IJRASET)

Simulation of FT-IR and FT-Raman Spectra Based on Scaled DFT Calculations, Vibrational Assignments, Hyperpolarizability, NMR Chemical Shifts and Homo-Lumo Analysis of 1-Chloro-4-Nitrobenzene

S.Seshadri [1], Rasheed .M.P [2]
[1](Associate Professor and Head, PG and Research Department of Physics, Urumudhanalakshmi College, Trichy-19)
[2] (Research Scholar, PG and Research Department of Physics, Urumudhanalakshmi College , Trichy-19)
Corresponding Author: Rasheed M P Mob 9947234807

ct: This work deals with the vibrational spectroscopy of 1-chloro-4-nitrobenzene (1C4NB) by means of quantum ical calculations. The solid phase FT-IR and FT-Raman spectra of 1-chloro-4-nitrobenzene (1C4NB) have been recorded regions 4000–400 and 3500-50 cm^{-1} respectively. The fundamental vibrational frequencies and intensities of vibrational were evaluated using density functional theory (DFT) with the standard B3LYP/6-311+G(d,p) method and frequencies aled using various scale factors. Simulation of infrared and Raman spectra utilizing the results of these calculations led ellent overall agreement with the observed spectral patterns. The SQM approach applying selective scaling of the DFT field was shown to be superior to the uniform scaling method in its ability to allow for making modifications in the band ment, resulting in more accurate simulation of FT-IR and FT-Raman Spectra. The ^{1}H and ^{13}C nuclear magnetic nce chemical shifts of the molecule were also calculated using the gauge independent atomic orbital (GIAO) method. The tical and experimental UV–VIS spectra of 1-chloro-4-nitrobenzene (1C4NB) were recorded and compared and the nic properties, such as HOMO (Highest Occupied Molecular Orbital) and LUMO (Lowest Unoccupied Molecular Orbital) ps were performed by time-dependent DFT (TD-DFT) approach. Information about the size, shape and charge density ution and site of chemical reactivity of the molecule has been obtained by mapping electron density isosurface with ular Electro Static Potential (MESP).The dipole moment , polarizability, first order hyperpolarizability and mullikkan c charges of the title molecule were computed using DFT calculations. In addition Chemical reactivity and thermodynamic rties of 1C4NB at different temperatures were also computed.

words: DFT, FTIR, FT-Raman, NMR, UV-Vis, HOMOLUMO, Hyperpolarizability, 1C4NB

I. INTRODUCTION

ro-4-nitrobenzene (1C4NB) is an organic compound with the formula $C_6H_4ClNO_2$. It is a pale yellow crystalline solid at room erature with a sweet odour and is slightly soluble in water (243 mg/L at 20°C). Its physical properties are given below. ical Class: nitro aromatic, Molecular mass: 157.56 g/mol, Boiling Point: 242°C, Melting Point: 82.6°C, Vapour Pressure: 0.2 Pa (at 30°C).

a common intermediate in the production of a number of industrially useful compounds. 1C4NB is used in the chemical try. It is used in the synthesis of industrial chemicals like paranitrophenol, paranitroaniline, paraaminophenol, 4-nitroanisole, ro-anisidine. It is used in the preparation of pesticides like parathion, methyl parathion, ethyl parathion and nitrophen. It is o used in the drug industry, in the synthesis of analgesic drugs like phenacetin and acetaminophen, and the antimicrobial drug lsone, which is used to treat leprosy among other conditions [1]. 1C4NB is also used in the synthesis of 4- henylamine based antioxidants for rubber. It is prepared industrially by nitration of chlorobenzene [2].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.sphinxsai.com

International Journal of ChemTech Research
CODEN (USA): IJCHGG ISSN: 0974-4290
Vol.7, No.2, pp 795-799, 2014-2015

ICONN 2016 [4th -6th Feb 2016]
International Conference on Nanoscience and Nanotechnology-2016
SRM University, Chennai, India

To Study the Potential of Microbial Lipid Based Nanostructured Lipid Carriers for Topical Drug Delivery Applications

Dhanalakshmi. J[1], Divakar.R[1], Amy Magdalene Paul[*]

Department of Physics and Nanotechnology, SRM University, Chennai, India

Abstract: Lipid Nano carriers show great potential as topical carriers due to their permeability and Lipophilic nature. In order to overcome the flaws faced with the previous generations of Lipid nanocarriers, a new class of carriers were developed called as Nanostructured Lipid carriers(NLC). In this work, we have synthesized NLCs using Microalgal based lipids extracted from *Spirulina platensis*. The average size of the NLCs were found to be around 400nm using Scattering techniques. The morphology of the particles were analyzed using Scanning electron microscopy and were found to be present in clumps which can be separated into individual particles by ultrasonication. The particles were found to be very stable and cationic in nature with a high zeta potential of around 80mV. The permeability was tested *in vitro* using Franz diffusion cell with goat skin which showed better penetration through the skin. This can be enhanced by decreasing the size of the particles by subjecting it to high pressure homogenization. These results indicate that these Microlipid based NLCs can offer greater potential as a topical carrier to treat a wide variety of diseases like actinic keratosis, arthritis etc.

Introduction

Liposomes, Solid lipid nanoparticles (SLN) and nanostructured lipid carriers (NLC) are the three major classes of Lipid nanocarriers which are in current use for topical/transdermal drug delivery applications. SLN are prepared by using solid lipis which form particles similar to oil in water emulsion concept. To overcome the major challenges associated with SLN and Liposomes, such as poor drug loading, drug leakage etc, NLC was developed. A combination of spatially different lipids enables higher drug loading in NLC formulation. Solid lipid nanoparticles (SLN) and Nanostructured Lipid Carriers (NLC) are the new generation of nanoparticulate active substance vehicles and are attracting major attention as novel colloidal drug carriers for topical use. Compared with polymeric nanoparticles,lipid nanoparticle has lower toxicity because of the absence of solvents in the production process and also relatively low cost of the excipients. NLC combine their advantages such as controlled release, biodegradable and protection of active compounds. Especially, NLC can favor drug penetration into the skins, maintain a sustained release to avoid systemic absorption, act as a UV sunscreen reduces irritation[1,2]. SLN represents a particulate system, which can be produced by one of the following techniques, namely, high pressure homogenization[3], microemulsion template technique[4],solvent emulsification

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Research Article CODEN: IJRPJK ISSN: 2319 – 9563

International Journal of Research in Pharmaceutical and Nano Sciences
Journal homepage: www.ijrpns.com

SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES USING *ACALYPHA INDICA* LEAF EXTRACT AND ITS ANTI-INFLAMMATORY ACTIVITY AGAINST HUMAN BLOOD CELLS

P. Sakthivel[*1] and P. Anitha[2]

[1*]Department of Physics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India.
[2]Department of Physics, Roever College of Engineering and Technology, Perambalur, Tamilnadu, India.

ABSTRACT

In the present study, bio synthesis of silver Nanoparticles using aqueous leaf extract of *Acalypha indica* and its anti-inflammatory activity against different micro-organisms were investigated. About 10 ml of aqueous extract of *A. indica* is added with 90 ml of $AgNo_3$ (1mM) solution, the resulting mixture was incubated at 37°C under static condition. After a period of 30 minutes the colour of the mixture changes from yellow to brownish colour, which indicates the formation of AgNPs. Green synthesis of silver nanoparticles (AgNPs) was characterized by UV-visible spectroscopy, Transmission electron microscopy, Fourier transform infrared spectroscopy, and X-ray diffraction (XRD). The Ag-Nps are monitored with the help of UV-visible spectrophotometer at the range of wavelength of 267.95nm. The average size of Ag-Nps was found to be 16.86 nm and 16.6 nm determined by using XRD and TEManalysis respectively. The technique was employed to visualize the size of Ag-Nps. It is observed from the results that biologically synthesized Ag-Nps from *Acalypha indica* aqueous leaf extract showed effective anti-inflammatory activity against human blood cells when comparable with standard values.

KEYWORDS

Acalypha indica, Silver Nanoparticles, UV–Vis spectroscopy, FTIR, TEM, XRD and Human blood cells.

Author for Correspondence:

Sakthivel P,
Department of Physics,
Urumu Dhanalakshmi College,
Trichy, Tamilnadu, India.

Email: anithasai2013@gmail.com

Available online: www.uptodatereseachpublication.com

INTRODUCTION

Indian greeneries are the chief and cheap source of medicinal plants and plant products. From centuries till date, these medicinal plants have been extensively utilized in Ayurveda. Recently, many such plants have been gaining importance due to their unique constituents and their versatile applicability in various developing fields of research and development. Nano biotechnology is

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Synthesis and Characterization of ZnO Nanoparticles for Chemiresistive Ammonia Vapor Sensor

by *S. Fairose & Suhashini Ernest**

INTERNATIONAL JOURNAL OF ADVANCED SCIENTIFIC RESEARCH & DEVELOPMENT (IJASRD)
p-ISSN: 2395-6089 | e-ISSN: 2394-8906 | Impact Factor: 2.415 | Vol 03, Iss 01, Ver I, (Jan – Mar'2016) | PP 159 – 177

ABOUT THE AUTHOR(S)

Ms. S. Fairose has finished her master degree in Physics in Urumu Dhanalakshmi College, Trichy. She is a passionate research scholar in physics, with more than 2 years of accomplished experience in research work. She has participated & presented 11 research paper in an international conference conducted by various institution in Tamil Nadu and also published one article in an international referred journals in the area of physics. Currently she pursuing her doctoral research in Urumu Dhanalakshmi College, Trichy, under the guidance of Dr. Suhashini Ernest.

Dr. Suhashini Ernest (corresponding author) is a Principal in Kaypeeyes College of Arts & Science, Kotagiri. She is a passionate academician, research supervisor in physics, with more than 30 years of accomplished experience in teaching in industry. She has participated and presented 22 research papers in an international and national conference conducted by various institutions in Tamil Nadu and also published over 13 articles in national and international referred journals in the area of thin film, ultrasonic, etc. She produce 57 M.Phil. / 7 Ph.D. Research Scholars in the field of physics and 3 doctoral scholars are doing their research work under her guidance.*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

P. Anitha et al. 2016, Volume 4 Issue 1
ISSN (Online): 2348-4098
ISSN (Print): 2395-4752

International Journal of Science, Engineering and Technology
An Open Access Journal

Synthesis and Characterization of Silver Nanoparticles using Delonix Elata Leaf Extract and Its Anti- Inflammatory Activity against Human Blood Cells

[1]P. Anitha, [2]P. Sakthivel

Abstract

By the review of various literature surveys it has been analyzed that Delonix elata leaf extract has a great medicinal values. The Silver Nanoparticles were prepared by employing the standard procedure. The formation of silver Nanoparticles is confirmed by occurrence of colour change. When Silver Nanoparticles is added with Delonix elata leaf extract, the colour changes from yellow to dark brown which confirms the formation of silver Nanoparticles. The silver Nanoparticles formed have been characterized by UV, FT-IR, XRD and TEM.UV absorbance peak at 230.98nm confirms it as the characteristic peak of silver Nanoparticles. The average sizes of silver Nanoparticles formed by XRD &TEM Analysis are 11.37nm & 11.78nm respectively. Further, these AgNPs formed from Delonix elata leaf extracts has a good anti-inflammatory activity. The anti-inflammatory activity was tested against human blood cells. Hence, the present research aims to open new avenues for the various ailments of medicine with the synthesis of silver Nanoparticles by using leaf extracts like Delonix elata &to bring the anti-inflammatory activity of a medicinal plant to the Scientist's notice, to educate awareness & add values to resources

Keywords: Delonix elata leaf, Silver Nanoparticles, UV, FT-IR, XRD and TEM etc.,

Introduction

Nanoparticles synthesis is usually carried out by various physical and chemical methods like laser ablation, pyrolysis, lithography, chemical vapour deposition, sol–gel techniques and electro-deposition, which are very expensive and hazardous. Although many routes are available for the synthesis of Nanoparticles, there is an increasing need to develop high-yield, low cost, non-toxic and environmentally friendly procedures. Therefore scientists are looking forward for greener methods [1,2]. Green nanotechnology is an area of interest having significant focus in present scenario with important objective of facilitating the manufacture of nanotechnology based eco-friendly products. The development of efficient green chemistry methods for synthesis of metal Nanoparticles has become a major focus of researchers [3]. Among heavy metal Nanoparticles, silver Nanoparticles have received major attention due to unique and tunable surface plasmon resonance (SPR) [4]. Synthesis of silver Nanoparticles with different size range and their self-assembly is considered important due to their potential applications in medicine [5]. In recent years, synthesis of AgNPs has been reported using several plant extracts particularly Prosopis juliflora [6]; Malva parviflora [7]; Hibiscus cannabinus [8]; Ocimum sactum [9]; Sesbania grandiflora [10]; Acalypha indica [11]; Alternathera sessilis [12]; Catharanthus roseus [13]; Ixora coccinea [14] and Mulberry [15]. Delonix elata (L.) Gamble belongs to the family of fabaceae and has been explored for pharmaceutical applications as the leaves and bark of this plant is known to have medicinal properties. The leaf extracts are anti-inflammatory in nature and provide relief from rheumatic problems like pain and stiffness of the joints, especially the knees. It is also known to increase the body heat and pulse rate. The decoction of plant root can be used for relief from abdominal pains. Powdered leaves in proportion with other

© 2016 P. Anitha et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly credited.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Growth and Characterization of Chloro Bis Thiourea Mercury (II) Chloride (CBTMC) Grown by Slow Evaporation Technique for Nonlinear Optical Applications

M. Peer Mohamed, S. Sudha, M. Nageshwari, P. Jayaprakash, P. Sangeetha, M. Prakash and M. Lydia Caroline

Abstract A noncentrosymmetric hard anisotropy crystals of Chloro bis thiourea mercury (II) chloride (CBTMC),[HgCl $[CS(NH_2)_2]_2Cl$], was synthesized using water as solvent and grown by slow solvent evaporation method and its properties are reported for the first time to attest its suitability in nonlinear optical applications. CBTMC single crystals possessing good morphology with size up to $0.6 \times 0.4 \times 0.2$ cm^3 were collected from the crystallization vessels after 12 days. Crystallography structure diffraction analysis using X-radiation confirms the non-centrosymmetric (polar) space group P_{mmn}, which is the key requirement to exhibit nonlinear optical activity. The crystals are analyzed by powder X-ray diffraction (PXRD) to assess the good crystalline nature. The existence of various functional groups in the synthesized compound were manifested and examined by FTIR spectrum. The thermal analysis disclosed the maximum temperature of operation of 253 °C for CBTMC. The EDAX spectrum emphasized the presence of mercuric chloride in the metal complex. CBTMC crystal was subjected to SEM analysis and it divulged the surface topographies. The UV-Visible spectra revealed the absorption edge down to near UV absorption wavelength at 213 nm, which is a

M. Peer Mohamed · S. Sudha · M. Nageshwari · P. Jayaprakash · P. Sangeetha · M. Lydia Caroline (✉)
PG & Research Department of Physics, Arignar Anna Govt. Arts College, Cheyyar 604407, Tamil Nadu, India
e-mail: lydiacaroline2006@yahoo.co.in

M. Peer Mohamed
Department of Physics, C. Abdul Hakeem College, Melvisharam 632509, Tamil Nadu, India

M. Prakash
PG & Research Department of Physics, Urumu Dhanalakshmi College, Thiruchirappalli 620019, Tamil Nadu, India

© Springer International Publishing Switzerland 2017
J. Ebenezar (ed.), *Recent Trends in Materials Science and Applications*, Springer Proceedings in Physics 189, DOI 10.1007/978-3-319-44890-9_48

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Molecular Structure 1148 (2017) 314–321

Contents lists available at ScienceDirect

Journal of Molecular Structure

journal homepage: http://www.elsevier.com/locate/molstruc

Growth and characterization of DL-Mandelic acid ($C_6H_5CH(OH)CO_2H$) single crystal for third-order nonlinear optical applications

P. Jayaprakash [d], P. Sangeetha [a], M. Peer Mohamed [a, c], G. Vinitha [b], S. Muthu [a], M. Prakash [e], M. Lydia Caroline [a, b, *]

[a] Department of Physics, Arignar Anna Govt. Arts College, Cheyyar, 604 407, Tamil Nadu, India
[b] Department of Physics, Dr. Ambedkar Govt. Arts College, Vyasarpadi, Chennai, 600 039, India
[c] Department of Physics, C. Abdul Hakeem College, Melvisharam, 632509, Tamil Nadu, India
[d] Division of Physics, School of Advanced Science, VIT University, Chennai, 600 127, India
[e] Department of Physics, Urumu Dhanalakshmi College, Thirachirappalli, 620 019, Tamil Nadu, India

ARTICLE INFO

Article history:
Received 9 June 2017
Received in revised form
19 July 2017
Accepted 19 July 2017
Available online 24 July 2017

Keywords:
Nonlinear optics
Optical absorbance
Dielectric studies
Optoelectronic
Z-scan technique

ABSTRACT

An organic conjugated chromophore DL-mandelic acid (DLMA) single crystal was synthesized and grown-up by means of slow evaporation technique. Single crystal X-ray diffraction study proclaimed that the DLMA crystal crystallized in monoclinic system with centrosymmetric space group $P2_1/c$. The various characteristic fundamental vibration frequencies were identified by FTIR spectroscopic studies. UV–visible spectral analysis concluded that the lower cut-off wavelength and calculated direct optical band gap of DLMA as 257 nm and 5.40 eV respectively. Thermal property of DL-mandelic acid was established through thermogravimetric and differential scanning calorimetric technique. The electric field response of DLMA crystal was investigated from the dielectric studies at a few selected temperatures and frequencies. The quantum chemical assessments such as HOMO-LUMO, molecular electrostatic potential and NLO activity were calculated and presented. In order to determine mechanical strength of DLMA crystal for various loads using Vickers microhardness tester. The real and imaginary parts of the third-order susceptibility (χ^3) were evaluated with the Z-scan technique using closed and open signatures respectively and was found to be Re (χ^3) = 4.15 × 10^{-6} esu and Im (χ^3) = 0.47 × 10^{-6} esu.

© 2017 Elsevier B.V. All rights reserved.

1. Introduction

Carboxylic acids are known as quite interesting building blocks for coordination compounds contributing to various roles through complexation such as one, two or more dentate coordination, bridging or chelating legends and counter-ions [1]. Moreover, carboxylic acid moiety is regarded to have a highly polar organic functional group, which may be due to a strongly polarized carboxyl (C=O) group and hydroxyl (O–H) group. This would result in a strong permanent dipole that can participate in energetic hydrogen bonding interaction [2]. In recent years, organic molecules with strong third-order nonlinear optical absorptions are of great requirement because of their potential applications such as 3D optical memory, optical switching, optical modulating, optical communication and high-speed information processing [3]. Recent research shows that organic molecule possess a broad range of third-order susceptibilities associated with fast response time in addition to their simplicity of process ability [3]. Organic materials with its excellent molecular flexibility and structural diversity allow one to fine-tune the chemical structures and achieve favoring optical nonlinearities, ultrafast response time and rapid response to electro-optic effect [4]. Large number of organic crystals has been widely studied in the past couple of decades for their applications in opto-electronics. Actually, organic molecules are always fascinating to synthetic and material chemists because of their simply tailoring and synthesis [5]. In organic crystals, the π orbits and delocalization of electronic charge distribution overlap together and this overlap is responsible for the π bond system that leads to high mobility of electron density [6]. Amid the organic systems, donor-acceptor charge transfer based hyperpolarizable compound possesses excellent third-order nonlinear optical properties

* Corresponding author. Department of Physics, Dr. Ambedkar Govt Art College, Vysarpadi, Chennai, 600 039, Tamil Nadu, India.
E-mail address: lydiacaroline2006@yahoo.co.in (M. Lydia Caroline).

http://dx.doi.org/10.1016/j.molstruc.2017.07.049
0022-2860/© 2017 Elsevier B.V. All rights reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Indian Journal of Pure & Applied Physics
Vol. 56, November 2018, pp. 902-913

Use of vibrational spectroscopy to study 1,3-dimethyl-5-nitrobenzene: A combined theoretical and experimental approach

S Seshadri[a]* & M Padmavathy[b]

[a]PG & Research Department of Physics, Urumu Dhanalakshmi College, Kattur, Trichy 620 019, India
[b]Department of Physics, Shrimati Indira Gandhi College, Trichy 620 002, India

Received 18 June 2017; accepted 3 November 2017

The FTIR and FT-Raman spectra of 1,3-dimethyl-5-nitrobenzene (DMNB) have been recorded in the range 4000–400 cm^{-1} and 3500–100 cm^{-1}, respectively. The molecular structures, fundamental vibrational frequencies and intensity of the vibrational bands have been investigated and interpreted theoretically with the use of structural optimizations and normal coordinate force field calculations based on density functional theory (DFT) with 6-31G(d,p) basis set. The vibrational assignments have been made from potential energy distribution (PED). The theoretically simulated vibrational spectra of the molecule show excellent agreement with the experimental spectra. The hyper conjugative interaction energy ($E^{(2)}$) and electron densities of donor (i) and acceptor (j) bonds have been calculated using NBO analysis. The electronic transition has been studied using UV-Visible analysis of the title molecule with B3LYP/6-31G(d,p) level of theory. The microscopic non-linear optical (NLO) behaviour of the title compound has also been calculated. In addition, the ^{1}H and ^{13}C NMR chemical shifts values of DMNB in the ground state for B3LYP/6-31G(d,p) method have also been calculated using gauge independent atomic orbital (GIAO) method.

Keywords: FTIR, FT-Raman, DFT, UV-Visible, NMR

I Introduction

Benzene is a colorless and highly flammable liquid with a sweet smell. It is an important industrial solvent and precursor to basic industrial chemicals including drugs, plastics, synthetic rubber and dyes. It evaporates into the air very quickly and dissolves slightly in water[1]. Benzene was historically used as a significant component in many consumer products such as liquid wrench, several paint strippers, rubber cements, spot removers and other hydrocarbon containing products. Benzene is also a natural part of crude oil, gasoline and cigarette smoke[2,3]. Today, benzene is used mainly as an intermediate to make other chemicals. Its most widely produced derivatives include styrene, which is used to make polymers and plastics, phenol for resins and adhesives and cyclohexane which is used in the manufacture of nylon.

Nitrobenzene is used to produce lubricating oils used in motors and machinery. Nitrobenzene and its derivatives are used in the manufacture of dyes, drugs, pesticides, polisher, paint and synthetic rubber. Nitrobenzene is also used to mask unpleasant odors in shoe and floor polishes, leather dressings, paint solvents and other materials. A significant use of nitrobenzene is its use in the production of the analgesic paracetamol and it has been used as an inexpensive perfume for soaps. Dimethylbenzene is used as an additive to motor oils, as a crystallizing solvent, and in the production of the synthetic intermediate phenyl magnesium bromide. Dimethylbenzene is used in the fumigant and insecticide, solvent and chemical intermediate to manufacture dyes, agrochemicals, pharmaceuticals and other organic synthesis.

Various spectroscopic studies of halogen and nitrogen substituted benzene compounds have been reported in the literature[4-8]. DMNB belongs to the group of organic halogen compounds replacing two hydrogen atoms in benzene by methyl (CH_3) and a nitro group (NO_2). Literature survey reveals that no detailed B3LYP with 6-31G(d,p) basis set calculations, NBO and NLO analysis, UV-Visible studies and NMR chemical shifts calculation of DMNB have been reported so far. It is, therefore thought worth to make this theoretical and experimental vibrational spectroscopic research based on molecular structure to give the correct assignment of fundamental bands in the experimentally observed FTIR and FT-Raman spectra. In this study, molecular geometry, optimized parameters and vibrational frequencies are computed

*Corresponding author
(E-mail: ssudc@14gmail.com)

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Computer Application

IJCSE

International Journal of Computer Sciences and Engineering

Scholarly Peer-Reviewed Scientific Research Publishing Journal

Publication Certificate

This is to certify that

S.Indira

has published a paper entitled "Multi-atlas Segmentation of MR Tumor Brain Images using Low-Rank Based Image Recovery" in International Journal of Computer Sciences and Engineering, Volume-07, Issue-06, June 2019, after review reports of our editorial board and review board.

We wish you for your success and bright future.....

Managing Director
IJCSE, ISSN: 2347-2693
www.ijcseonline.org
editor@ijcseonline.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJCSE

International Journal of Computer Sciences and Engineering

Scholarly Peer Reviewed Scientific Research Publishing Journal

Publication Certificate

This is to certify that

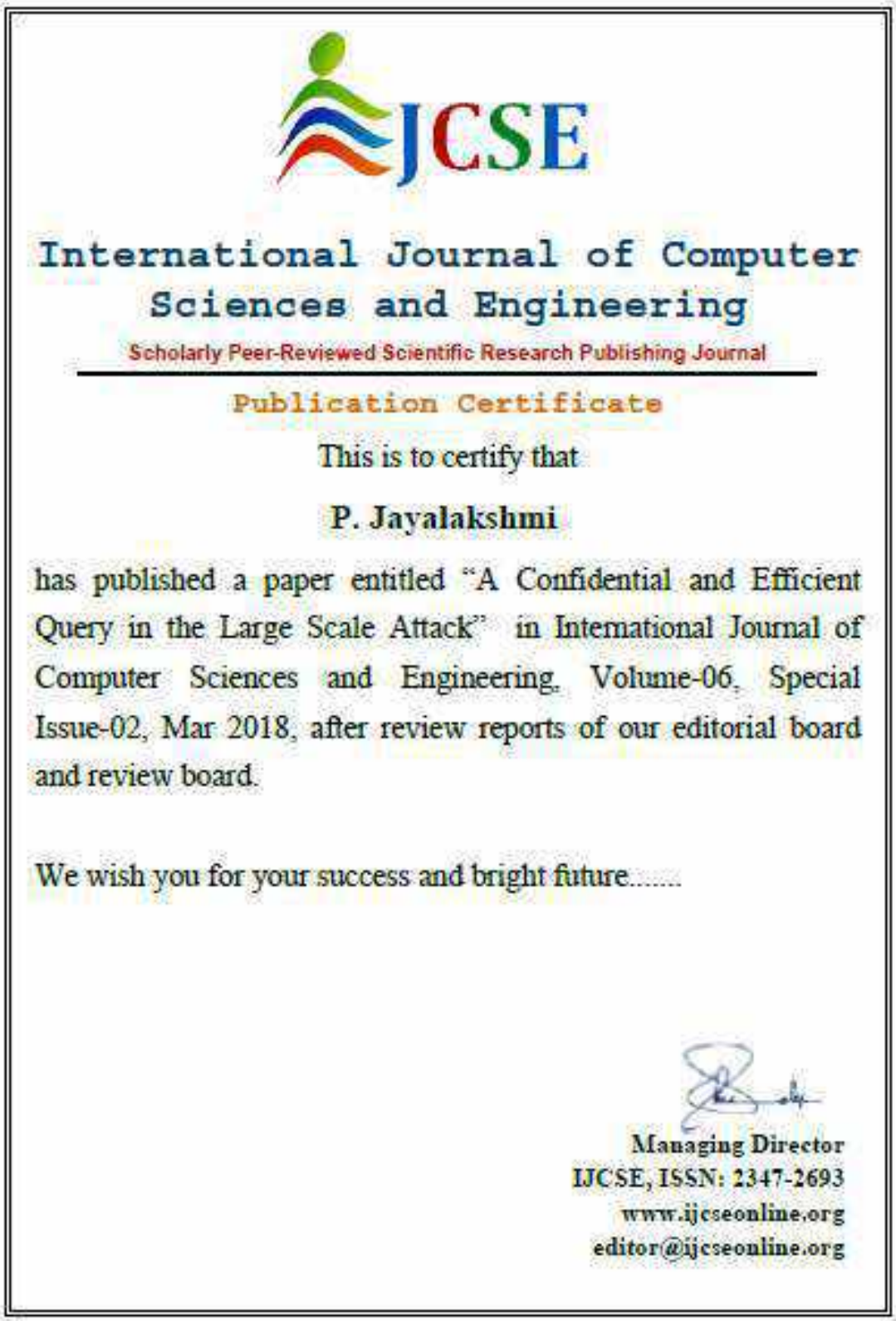
V.Lalitha Devi

has published a paper entitled "Multi-atlas Segmentation of MR Tumor Brain Images using Low-Rank Based Image Recovery" in International Journal of Computer Sciences and Engineering, Volume-07, Issue-06, June 2019, after review reports of our editorial board and review board.

We wish you for your success and bright future.

Managing Director
IJCSE, ISSN: 2347-2693
www.ijcseonline.org
editor@ijcseonline.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Computer Sciences and Engineering

Scholarly Peer-Reviewed Scientific Research Publishing Journal

Publication Certificate

This is to certify that

P. Jayalakshmi

has published a paper entitled "A Confidential and Efficient Query in the Large Scale Attack" in International Journal of Computer Sciences and Engineering, Volume-06, Special Issue-02, Mar 2018, after review reports of our editorial board and review board.

We wish you for your success and bright future.....

Managing Director
IJCSE, ISSN: 2347-2693
www.ijcseonline.org
editor@ijcseonline.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJCSE

International Journal of Computer Sciences and Engineering

Scholarly Peer-Reviewed Scientific Research Publishing Journal

Publication Certificate

This is to certify that

S. Sathiyavani

has published a paper entitled "A Novel Approach for Efficient Usage of Intrusion Detection System in Mobile Ad Hoc Networks" in International Journal of Computer Sciences and Engineering, Volume-06, Special Issue-02, Mar 2018, after review reports of our editorial board and review board.

We wish you for your success and bright future.....

Managing Director
IJCSE, ISSN: 2347-2693
www.ijcseonline.org
editor@ijcseonline.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJSRD

ISSN (ONLINE) : 2321 0613

IJSRDVS120036

IJSRD

INTERNATIONAL JOURNAL FOR SCIENTIFIC RESEARCH & DEVELOPMENT

CERTIFICATE OF PUBLICATION

is here by awarding this certificate to

JAYASREE KALYANI.S

in recognition of the publication of the paper entitled

ENABLING PRIVACY PRESERVING LOCATION PROOFS FOR MOBILE USERS USING DYNAMIC GRID

published in e-journal

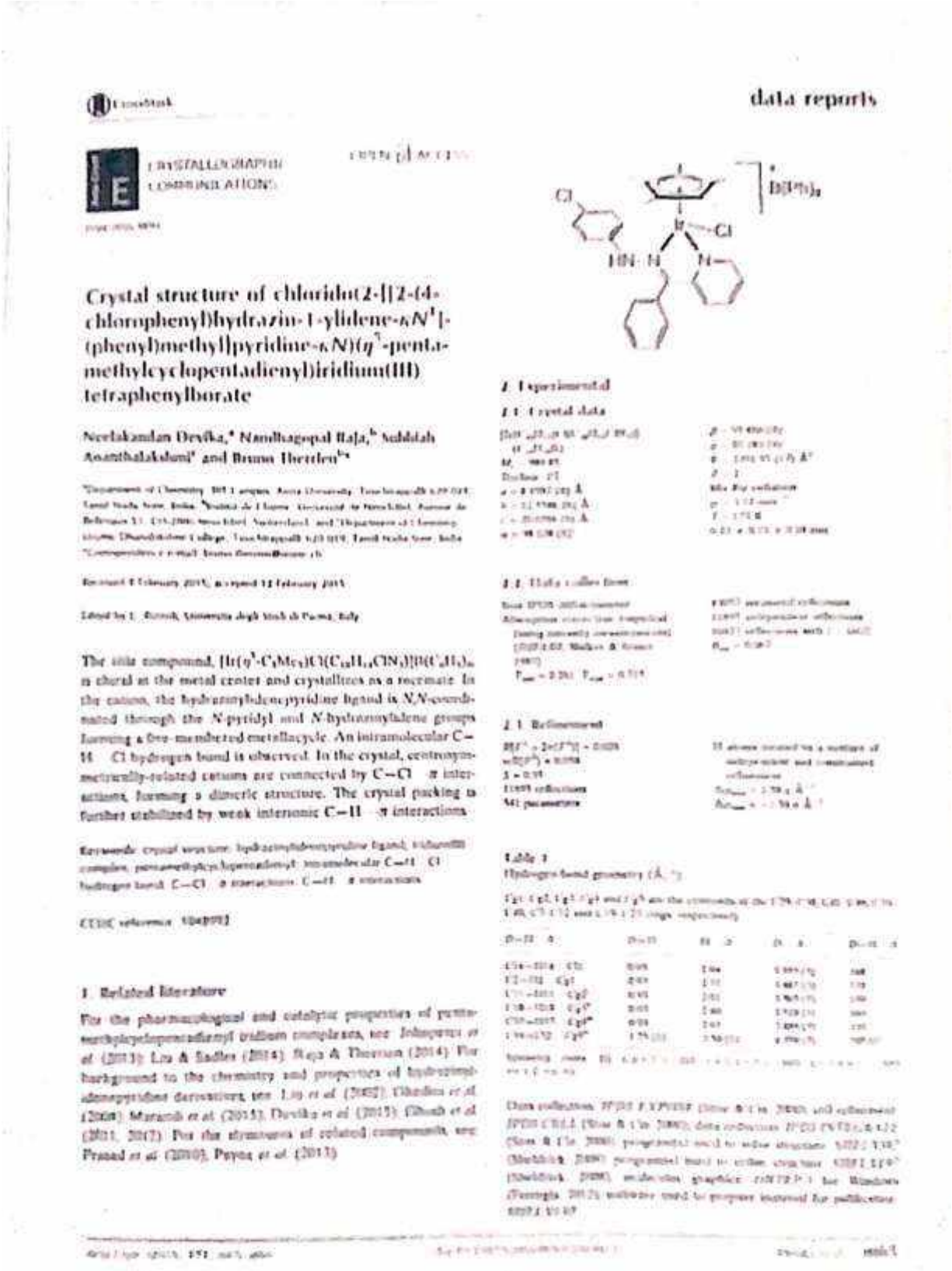
Volume 11 Issue 2, in November 2017

EDITOR-IN-CHIEF

EXECUTIVE-EDITOR

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Chemistry



data reports

CRYSTALLOGRAPHIC COMMUNICATIONS

Crystal structure of chlorido{2-[[2-(4-chlorophenyl)hydrazin-1-ylidene-κN¹]-(phenyl)methyl]pyridine-κN}(η⁵-pentamethylcyclopentadienyl)iridium(III) tetraphenylborate

Neelakandan Devika,* Nandhagopal Raja,[b] Subbiah Ananthalakshmi[a] and Bruno Therrien[b]*

Received 9 February 2015; accepted 12 February 2015

Edited by L. Russo, University degli Studi di Parma, Italy

The title compound, [Ir(η⁵-C₅Me₅)Cl(C₁₈H₁₄ClN₃)][B(C₆H₅)₄], is chiral at the metal center and crystallizes as a racemate. In the cation, the hydrazinylidenepyridine ligand is *N*,*N*-coordinated through the *N*-pyridyl and *N*-hydrazinylidene groups forming a five-membered metallacycle. An intramolecular C—H···Cl hydrogen bond is observed. In the crystal, centrosymmetrically-related cations are connected by C—Cl···π interactions, forming a dimeric structure. The crystal packing is further stabilized by weak intermolecular C—H···π interactions.

Keywords: crystal structure; hydrazinylidenepyridine ligand; iridium(III) complex; pentamethylcyclopentadienyl; intramolecular C—H···Cl hydrogen bond; C—Cl···π interactions; C—H···π interactions.

CCDC reference: 1046991

1. Related literature

For the pharmacological and catalytic properties of pentamethylcyclopentadienyl iridium complexes, see: Johnpeter *et al.* (2013); Liu & Sadler (2014); Raja & Therrien (2014). For background to the chemistry and properties of hydrazinylidenepyridine derivatives, see: Liu *et al.* (2002); Chandra *et al.* (2008); Mustafa *et al.* (2015); Devika *et al.* (2015); Ghosh *et al.* (2011, 2012). For the structures of related compounds, see: Prasad *et al.* (2010); Payne *et al.* (2013).

2. Experimental

2.1. Crystal data

2.2. Data collection

2.3. Refinement

Table 1
Hydrogen-bond geometry (Å, °).

3.3.2. Number of research papers per teacher in the Journals notified on UGC

CRYSTALLOGRAPHIC COMMUNICATIONS

ISSN 2056-9890

Received 16 January 2015
Accepted 27 January 2015

Edited by C. Rizzoli, Università degli Studi di Parma, Italy

Keywords: crystal structure; rhodium(III) complex; pentamethylcyclopentadienyl; piano-stool geometry; N—H···Cl hydrogen bond

CCDC reference: 1045840
Supporting information: this article has supporting information at journals.iucr.org/e

Crystal structure of chlorido(2-[1-[2-(4-chlorophenyl)hydrazin-1-ylidene-κN]ethyl]pyridine-κN)-(η^5-pentamethylcyclopentadienyl)rhodium(III) chloride

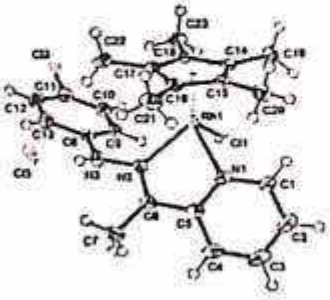
Neelakandan Devika,[a] Nandhagopal Raja,[b] Subbiah Ananthalakshmi[a] and Bruno Therrien[b]*

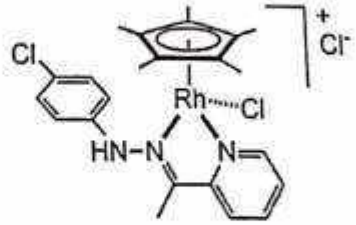
[a]Department of Chemistry, BIT Campus, Anna University, Tiruchirappalli 620 024, Tamil Nadu State, India, [b]Institut de Chimie, Université de Neuchâtel, Avenue de Bellevaux 51, CH-2000 Neuchâtel, Switzerland, and [c]Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli 620 019, Tamil Nadu State, India. *Correspondence e-mail: bruno.therrien@unine.ch

The cation of the title compound, $[Rh(\eta^5\text{-}C_5Me_5)Cl(C_{13}H_{12}ClN_3)]Cl$, adopts a typical piano-stool geometry. The complex is chiral at the metal and crystallizes as a racemate. Upon coordination, the hydrazinylidenepyridine ligand is non-planar, an angle of 54.42 (7)° being observed between the pyridine ring and the aromatic ring of the [2-(4-chlorophenyl)hydrazin-1-ylidene]ethyl group. In the crystal, a weak interionic N—H···Cl hydrogen bond is observed.

1. Chemical context

Chiral-at-metal pentamethylcyclopentadienyl rhodium complexes are popular catalysts in enantioselective reactions (Carmona *et al.*, 1999; Davies *et al.*, 2004). To obtain such chiral-at-metal complexes, a non-symmetrical bidentate ligand can be used. Among bidentate ligands, hydrazinylidene-pyridine derivatives are easy to synthesise (Liu *et al.*, 2002; Ghedini *et al.*, 2004; Marandi *et al.*, 2015), and when coupled to metal centers not only can they introduce chirality, but also they can generate biologically relevant complexes (Ghosh *et al.*, 2011, 2012). Herein, we present the synthesis and characterization of a chiral-at-metal pentamethylcyclopentadienyl rhodium(III) hydrazinylidenepyridine complex, $[Rh(\eta^5\text{-}C_5Me_5)Cl(C_{13}H_{12}ClN_3)]Cl$.





2. Structural commentary

The molecular structure of the title compound is presented in Fig. 1. The cationic complex adopts a typical piano-stool geometry and it is chiral at the metal centre. The salt crystallizes as a racemate in the orthorhombic space group *Pbca*. In the complex, the hydrazinylidenepyridine ligand is *N,N*-coordinating, the *N*-hydrazono and the *N*-pyridine groups

OPEN ACCESS

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 0076-5131

Optimization of Process Parameters on Removal of Nickel from Plating Waste Water using Taguchi Method

Ananthalakshmi Subbaiah[1], Kalaivani Subramanian[2], Mohan Raj[3], Kavitha[4]
[1]Research Advisor, [2&3&4] Research Scholars
Department of Chemistry, Urumu Dhanalakshmi College,
Tiruchirappalli 19, Tamilnadu, India
delakshmichem@gmail.com,kalaipriya01@gmail.com

***Abstract*— Industrial effluents from nickel electroplating industries contain high amounts of nickel ions. They are non-biodegradable and highly toxic. The current plan of the work involves studies on Effect of each of Current Density(Cd) (0.2, 0.6 and 1.0 Amp/ dm2), initial concentrations (Ic) (100ppm, 250ppm and 500ppm) and time (t) (5 min, 30min and 120min) The optimum conditions for maximum removal of nickel were studied. Experiments were conducted based on the plan of experiments generated by DOE 3^4. A L9 Orthogonal array was selected for analysis by Taguchi technique. The effects of all three input process parameter on the only one output response of Nickel removal have been analyzed and validated using analysis of variance (ANOVA).**

***Keywords*— Nickel, Wastewater, Electrocoagulation, Taguchi, ANOVA.**

I. INTRODUCTION

The continued disposal of huge amount of water from different industrial process results in the pollution of air, water and land. Enormous growth of various chemical and electrochemical industries globally is demanding new methodologies to recycle water for internal utility of the industries. Legislative and normative regulations towards achieving zero discharge norms, is changing the treatment scenario before the discharge of industrial process water. The commonly used physico-chemical treatment processes required quantity of toxic sludge. Since a lot of additional chemical burdens and great quantity of toxic sludge is generated in this method. Therefore, there is an urgent need to develop innovative and more effective techniques for treatment of wastewaters. Industrial effluents from nickel electroplating industries contain high amounts of nickel ions and they are non-biodegradable and highly toxic. Only 30-40 per cent of the metals used in plating processes are effectively utilized.

Nickel is a toxic heavy metal and nickel compounds, for instance nickel sulphide, are suspected to cause cancer. Waste streams from nickel electroplating industries may contain up to 500 ppm Ni^{2+} ions, which according, to environmental regulations worldwide must be controlled to an acceptable level (<2ppm) before being discharged to the environment. Several treatment processes have been suggested for the removal of Ni^{2+} ions from aqueous waste streams: adsorption, biosorption, ion exchange, chemical precipitation and electrochemical methods: electro-winning, electro-dialysis, electro-deionization, membrane-less electrostatic shielding based electro dialysis/electro-deionization and electrocoagulation.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Advanced Research in
Civil,Structural,Environmental and Infrastructure Engineering and Developing
Volume: 2 Issue: 2 07-Jul-2014,ISSN_NO: 2320-723X

Removal of Zinc from Barrel Plating Wash Water by Electro Coagulation using Aluminium as Anode and Stainless Steel as Cathode

S.Kalaivani [1], S.Ananthalakshmi [2]
Research Scholar, Urumu Dhanalakshmi College,
Trichy, Tamilnadu, India[1].
Associate Professor, Urumu Dhanalakshmi College,
Trichy, Tamilnadu, India[2]

ABSTRACT— *Heavy metals are generally refractory and cannot be de-toxified and de-graded biologically, hence it is a challenging task for the industrialist and environmentalist for the safe method for the effective disposal of waste containing heavy metals. Various technique which have been developed for the removal of heavy metal include chemical precipitation, reverse osmosis, bio-sorption etc. The electro coagulation method was widely used and playing an important role in the effluent treatment. Since electro coagulation process has better removal efficiency compared to chemical coagulation. The current topic is aimed for the removal of zinc as Zn2+. The main objective to the current work is to remove zinc from barrel plating wash water by electro coagulation using aluminium (Al) as anode and stainless steel (SS) as cathode. The scheme study involves. Effect of initial metal concentration (866ppm, 433ppm, 216.5ppm, 279ppm). Effect of pH (acid, alkali, neutral). Effect of current density(0.1A, 0.2A, 0.6A). Effect of supporting electrolyte (Nacl) concentration(2gpl, 4gpl). Effect of polarity change(AL-AL, MS-MS). Effect of different combination of electrodes(AL-SS, MS-SS) for the removal of zinc. The crystallographic orientation, identification of structure were analyzed by X-ray diffraction. The presence of different phases was analyzed by XPS analysis. In order to study the surface morphology and composition of coatings SEM and EDAX were used. The reduction of zinc in wash water has been determined by FT-IR spectrometer and HPLC. In particular the electro chemical techniques provide higher efficiency than conventional methods.*

Keywords— Electroplating, Electro coagulation, Zinc, Barrel Plating.

INTRODUCTION

Environment is viewed with different angles by different environmentalists. It is the sum of all social, economical, biological, physical (or) chemical factors which constructed the surroundings of man, who is both creator and molder of his environment. Fortunately, however, environmental awareness also grown dramatically, especially in the past few years. Several nations around the world are taking the lead in the implementation of new laws that regulate, and in many cases even ban, the use and disposal of hazardous chemicals. Among various types of pollution, water pollution is of major criteria which require immediate attention. This is because life is dependent on water crucially.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.ijecs.in
International Journal Of Engineering And Computer Science ISSN:2319-7242
Volume 4 Issue 3 March 2015, Page No. 10625-10631

Development of Mathematical Model to Predict the Removal Rate of Zinc in Zinc Barrel Plating wash water using Full Factorial Design

S. Kalaivani[1], Dr. S. Ananthalakshmi[2]
1. Research Scholar, Urumu Dhanalakshmi College, Tiruchirappalli-19.
2. Associate Professor, Urumu Dhanalakshmi College, Tiruchirappalli-19
Kalaipriya01@gmail.com.

Abstract
This study highlights the features of the development of inclusive mathematical models for correlating the interactive and higher order manipulates of the various parameters in the zinc barrel plating wash water. Full Factorial technique is used to perform the experiments. The response factors namely initial concentration, current density and time were involved by zinc removal rate in the zinc barrel plating wash water has been considered and examined. Analysis of variance (ANOVA) was employed to ensure the adequacy of the models so developed and student's t-test was utilized to check the significance of each factor to appear the final form of the mathematical models. The models so developed are utilized to conclude the values of the response parameters which influence the zinc barrel plating for each given set of variables within the ranges selected.

Keywords: Barrel Plating, DOE, Full Factorial Design.

1. Introduction

Most of the industrial processes result in the release of heavy metals into natural water systems with growing urbanization and rapid industrialization. The problem of the release of untreated waste water into the eco system has been of increasing concern in many parts of the world. Therefore, the removal of toxic pollutants from waste water has recently become the subject of considerable interest due to more strict legislations introduced in many countries to control water pollution[1]. Zinc compounds which are used in alloy, galvanized metal, fluorescence components, paint pigments, sunscreen lotions, fast-setting dental cements, deodorants, embalming and fire proofing lumber which cause mucous membrane damage, diarrhoea and

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal on Future Revolution in Computer Science & Communication Engineering
Volume: 4 Issue: 3
ISSN: 2454-4248
393 – 399

ANN Modeling and GA Optimization of Zinc Removal from Wash water by Electro-coagulation Process

S.Kalaivani[1]
[1]Research Scholar, Department of Chemistry
Urumu Dhanalakshmi College,
Tiruchirappalli - , India.
kalaipriya01@gmail.com

Dr. S.Ananthalakshmi[2]
[2]Associate Professor, Department of Chemistry
Urumu Dhanalakshmi College,
Tiruchirappalli - , India.
drlakshmichem@gmail.com

Abstract—The present research concentrates on Artificial Neural Network (ANN) for modeling and Genetic Algorithm (GA) for optimization of zinc removal from the industrial wash water by EC process. In the EC process, the most important control independent variables are Initial Concentration (Ic – 216.5 to 866mg/L), Current Density (Cd – 0.1 to 0.6A/dm²) and Time (T – 2 to 15mins). These variables are also affecting the performance of zinc removal. ANN model was able to predict the maximum removal of zinc with two transfer functions like tan sigmoid at hidden layer with 8 neurons, purelin at output layer. Feed forward multilayered perception with Levenberg - Marquardt back propagation training algorithm was used for train the design with Mean Squared Error (MSE) of 1.18 and Correlation Coefficient (R2) of 0.9909 in ANN shows that the model was capable to predict the zinc removal. Single Objective Optimization for maximizing the zinc removal was conducted using GA over the ANN model. Using pattern search method in a GA, the best optimum conditions are recorded as 217.5 mg/L., 0.1A/dm² and 2mins for Ic, Cd and T respectively and the maximum zinc removal at the above condition as 88.71%.

Keywords-*Electro-coagulation process, Artificial Neural Network, Genetic Algorithm, Wash water, Zinc removal.*

*****

I. INTRODUCTION

All Now a day, electroplating industries are discharging the huge amount of toxic pollutants contained wash water into the river, seas, candle, lake and other natural sources, etc., Result of this, a significant threat to the environment and human health. Excessive level of heavy metal especially zinc present in the wash water may leads the throat dryness, chills, cough and vomiting, etc., Zinc level should be maintained in the water as 5ppm which is standardized by FDA (Reshmi G Saseendran et al, [1])

Zinc is the one of the most important toxic and dangerous hazardous metallic pollutants in the wash water from the outlet of electro plating industries. There are many treatment methods and techniques on how to remove the zinc from the wash water. Large amount of zinc is presence in the galvanization, paint, pigment and electro plating industries wash water and it is not properly removed from this industrial waste water before discharging to the environment because of this huge problem in human and animal health and also ecology system (Charif Gakwisiri et al, [2]).

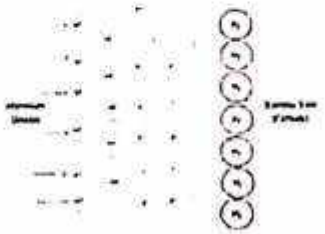


Figure 1 Conceptual sketch of the EC mechanism

Among the various wastewater treatment methods and techniques, electro coagulation is the most effective, quick and promising technology for treating the plating industrial wash water. The conceptual mechanism which is employed in the electro coagulation process is shown in the below figure1 (J.A.G.Gomes et al, [3]).

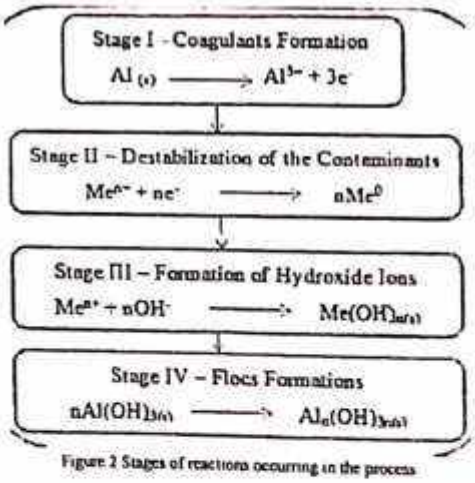


Figure 2 Stages of reactions occurring in the process

The figure 2 shows the three stages of ion producing pattern happening in the electro coagulation process and the reaction equations (I. Heidmann et al, [4]). Nafaa Adhoum et al. [5] conducted a study on the removal of zinc from the electro plating industries by electro coagulation and concluded that electro coagulation treatment technique/method could be the most effective and best method/technique used to remove the heavy metal in general and particularly zinc from the wash water of electro plating industries. Ahmed Samir Naje et al.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJCSE International Journal of Computer Sciences and Engineering Open Access
Research Paper Volume-6, Issue-3 E-ISSN: 2347-2693

Application of 3^3 Ffd Modelling for Removal of Zinc from the Industrial Wash Water

S.Kalaivani[1*], S.Ananthalakshmi[2]

Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, India
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, India

*Corresponding Author: kalaipriya01@gmail.com, Tel.: +09566629709

Available online at: www.ijcseonline.org

Received: 17/Feb/2018, Revised: 21/Feb2018, Accepted: 15/Mar/2018, Published: 30/Mar/2018

Abstract — This present study focused, full factorial design modeling to achieve the optimum treatment conditions on removal of zinc from the industrial wash water. After experimentation, mathematical model for zinc removal was developed to correlate the influences of process parameters and output response. The main & interactive effects of three different experimentally controlled factors were investigated. The contribution percentage of each factor were obtained in the ascending order as Initial Concentration (15.49%) < Current Density (22.19%) < Time (25.29%). The experimental result analysis showed that the combination of higher level of initial concentration and lower levels of both current density and time is essential to achieve maximization of zinc removal rate. ANOVA was used to find out the most significant parameters which affect the response characteristics. Results also show that about 100% of zinc removal can be obtained at optimum conditions.

Keywords— Electro coagulation, Wash water, FFD, Removal of zinc, ANOVA.

I. INTRODUCTION

Historical effluent discharges from a variety of anthropogenic activities have resulted in contamination of rivers, lakes and other water bodies. The explosive population growth and expansion of urban areas has exacerbated the adverse impacts on water resources [2]. Manufacturing of electronic devices, metal plating industries and mining are some human activities that produce wash water with considerable concentrations of heavy metals [17].

Zinc is one of the toxic metals that is available in industrial effluents involved in acid mine drainage, galvanizing plants, natural ores and municipal wash water treatment plants [11]. High release of zinc into environment is also from agricultural activities, sediment entrainment and ground water [5]. In recent years, various methods of zinc removal from industrial wash water have been developed such as chemical precipitation, solvent extraction, reverse osmosis, ion exchange, evaporation, filtration, adsorption, coagulation, oxidation and reduction. Among these methods, electro coagulation has been specially applied as an efficient method for Zinc removal.

Electrocoagulation is a simple and efficient method for the treatment of many water and waste waters. It has been tested successfully to treat Potable water [16 and 9], textile waste water [6, 7 & 8], to treat urban waste water [15], to treat restaurant waste water [18] and dye stuff [13, 10 & 4] from waste water. It has also been used to remove heavy metals [14, 1 & 3]. This process is characterized by a fast rate of pollutant removal, compact size of the equipment, simplicity in operation and low capital and operating costs. The objective of the present study is to examine the feasibility of electrocoagulation in treating plating wash water and to determine the optimum operational conditions.

Design of experiment is a statistical procedure that can reduce significantly the number of experiment, keeping, however, the reliability of the conclusions at high standard. The traditional experiment method, one factor at a time approach can hardly be used to establish relationships among all the experimental input factors and the output responses. Factorial design technique was used to reduce the number of experiments, time, overall process cost and to obtain better response and many authors applied factorial designs for the development of chemical process in various applications. Compare with the traditional method, advantage of factorial design over one-factor-at-a-time experiment are that they are more efficient and they allow interactions to be detected [12]

III. METHODOLOGY

The plating wash water was collected at source of the industry, M/s Sundaram fasteners, Aviyur, near Virudunagar using pre-cleaned and pre-sterilized 10L carbony cans from

© 2018, IJCSE All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(5): 2198-2201
Received: 19-07-2018
Accepted: 21-08-2018

S Ananthalakshmi
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

A Ambethkar
Department of Botany, Periyar EVR College, Tiruchirappalli, Tamil Nadu, India

R Kavitha
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Kalaivani
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
S Ananthalakshmi
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

GC-MS analysis on the methanolic extract of *Trichosanthes anguina* L. root and leaves

S Ananthalakshmi, A Ambethkar, R Kavitha and S Kalaivani

Abstract
Phyto Chemical Screening of *Trichosanthes anguina* L. (snake gourd) root and leaves were done by GC-MS analysis for the identification of secondary metabolites. In this paper, the results of the analysis of methanolic extract analysed by GC MS technique (Thermo GC Trace Ultra Version 5.0, Fisher, USA) are presented. The 1.0 ml mm volume of methanolic extract sample was injected into the instrument and the compounds are identified and analyzed by splitless injection technique. The compounds were separated using Helium (1.0 ml min) as the carrier gas. The GC-MS analysis for *Trichosanthes anguina* L. provides eight major peaks determining the presence of twelve major compounds namely ester (15.13%), alcohol (2.12 %), hetero cyclic compound (19.67%), amine/amide (0.51/0.41%), thaether (0.51%), diene (9.88%), aldehyde (9.88 %), nitro compound (1.45 %), ketone (0.56%), alkene (0.56 %), amino compound (1.17 %) and amino acid (0.61%). The presence of various main bioactive compounds namely furan, pyrrole-1-oxide, 4-cyanomethyl-3- pyrrolepropione, nitrilemethyl esters, hetero cyclic compounds which confirm the medicinal importance of the plant.

Keywords: Phytocomponents, *Trichosanthes anguina* L. methanolic extract, medicinal plants

Introduction
Nature has bestowed on us a very rich botanical wealth and a large number of diverse types of plants which grow in different parts of the country. Herbal medicine plays an important role in health care programs in the developing countries. *Trichosanthes anguina L.* is mainly constituted with a series of secondary metabolites as flavonoids, carotenoids, phenolics acids, etc. The nutritional values make the plant pharmacologically and therapeutically active. It has a prominent place in alternative system of Ayurvedic and Siddha medicine due to the various Paramacological activities like anti-diabetic, hepto-protective, cytotoxins, anti-inflammatory and carvicidal effects (Longman, 2002) [1]. The species possess antiviral compounds like *Trichosanthin and Trichoangusin*. The *Trichosanthin* is reported to have anti-HIV properties (Ferrari *et al*, 1991). These compounds have been used in the treatment of skin diseases, cough, ulcer etc. The plant is known as an appetizer, digestive, germicide, laxative and aphrodisiac (Sivarajan and Balachandran, 1994, Chatterjee and Prakashi, 1997) [2, 3].

Plants remain a major source of Pharamaceuticals and fine chemicals. Plants produce an array of natural products which are known as" *Secondary Metabolites*". They are not essential for plant growth and are normally produced in small amount (Kim *et al*., 2002) [4]. The utilization of plant cells, tissues or organs for the production of natural and recombinant compounds of commercial interest has gained increasing attention over the past decade (Center *et al* 2005, Murthy *et al*, 2008) [5, 6].

Screening of active compounds extracted from the plants has led to the invention of new medical drugs which have efficient protection and treatment roles against various diseases including cancer. (Sheeja and Kuttan, 2007) [7] and alzheimers disease (Mukherjee *et al*, 2007) [8]. Flavonoid 'quercetin' was isolated and identified from the leaf and not of citrullus colocynthis (Meena and Patni, 2008) [9]. The dried samples were separately extracted in 80% methanol.

A variety of instruments and devices are available for the estimation of secondary metabolites. Of which a gas chromatography - mass spectrometry (GC-MS) analysis is a versatile technique used for the identification and analysis of secondary metabolites present in the plants. In this work it is decided to identify the phyto components from *Trichosanthes anguina* L. leaf extract by GC-MS analysis.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2016; 2(11): 317-321

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor 5.2
IJAR 2016; 2(11): 317-321
www.allresearchjournal.com
Received: 17-09-2016
Accepted: 18-10-2016

R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Ananthalakshmi
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Kinetic studies on the reaction of *p*-Toluenesulfonyl chloride with α-Hydroxy acids in the presence of pyridine in acetonitrile

R Kavitha and S Ananthalakshmi

Abstract
The kinetic studies on the reaction of *p*-Toluenesulfonyl Chloride (TsCl) with α-Hydroxy acids in the presence of Pyridine under equimolar and *pseudo* first order conditions in Acetonitrile at 20, 30 and 40 °C have been studied by conductometric method. The rate constants were obtained by the least square method. Kinetic data shows that the reaction follows second order kinetics and first order with respect to each of the reactants. The attacking nucleophile is found to be a hydrogen bonded ion pair. Thermodynamic parameters have been evaluated by using kinetic data. The entropy of activation is negative as expected for bimolecular reactions. Kinetic data and product analysis indicate that the reaction proceeds through direct nucleophilic attack on the sulfur center.

Keywords: Substitution kinetics, sulfonyl ester, hydrogen bonded ion-pair, activation parameters, isokinetic temperature

1. Introduction
Chemical kinetics is the study of rate of chemical processes which includes investigations of a reaction in different experimental conditions and their influences on the speed of chemical reaction. The various factors such as concentration, pressure, temperature, medium, effect of catalyst etc., decides the rate of reaction [1]. Kinetic studies provide information about the transition state and reaction mechanism. The mechanism tells about the changes in arrangement of electrons in the starting materials that led to products and help us to generate hypotheses about the rate and stereo chemical aspects of the reaction. The interpretation of the reaction mechanism is based on the rate of the reaction and product analysis [2].
A lot of kinetic studies were done on the nucleophilic substitution reactions between triethyl ammonium carboxylates and active organic halides containing saturated carbon atom[3-10]. Aryl sulfonyl halides are acted as a good substrate for nucleophilic substitution processes at sulfonyl sulfur [11-15], and especially Benzenesulfonyl halides attracted much interest. Nucleophilic substitution of sodium benzoate(s) with Benzenesulfonyl chloride in methanol follows S_N2 mechanism and the nucleophilic substitution takes place at sulfonyl sulphur [16]. S. Ozturk and H. Kutuk have reported the kinetics of nucleophilic substitution reaction of *p*-substituted arylsulfonylphthalimides with several amines in acetonitrile [17]. Kinetic studies on the reactions of TsCl with *p*-substituted Benzoic acids in the presence of triethylamine in aprotic solvents has been extensively studied by Ananthalakshmi and Nallu [18]. They concluded that the reaction follows second order kinetics with respect to the whole and first order with respect to each of the reactants. Similar investigation on the reaction of TsCl with *p*-substituted phenols and triethylamine in acetone and acetonitrile were reported in the literature [19]. The electron withdrawing chlorine on sulfur atom in TsCl induces an electron deficient centre at the tetra coordinated sulfur atom and thereby facilitates the approach of a nucleophile towards the sulfur atom.
The literature reviewed indicates that few kinetic studies have made on nucleophilic substitution at sulfonyl sulfur centre by acids/phenols in the presence of tertiary base, and the kinetic studies of TsCl with α-Hydroxy acids (such as Glycolic acid, Lactic acid, Mandelic acid etc) in the presence of base have not been reported yet. Thus, we planned to investigate the nucleophilic substitution reaction of TsCl with α-Hydroxy acids in the presence of Pyridine in Acetonitrile.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2017; 3(1): 354-357

International Journal of Applied Research

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(1): 354-357
www.allresearchjournal.com
Received: 20-11-2016
Accepted: 21-12-2016

R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Ananthalakshmi
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Effects of solvents on kinetics of the reaction between *p*-Toluenesulfonyl Chloride and α-Hydroxy acids in the presence of pyridine

R Kavitha and S Ananthalakshmi

Abstract
The rate constants for the reaction of *p*-Toluenesulfonyl Chloride with α-Hydroxy acids in the presence of Pyridine in various polar aprotic, protic and nonpolar solvents have been investigated. The rate constants of the reaction are 3 – 50 times higher in polar aprotic solvents than in protic solvents. The solvent effects can be explained on the basis of solvation of anions in polar aprotic and protic solvents. The contributions of hydrogen bonding in solvation are discussed. Solvation of S_N2 transition state anions depends on the nature of entering and leaving group. The transition state for these reactions is greatly solvated by methanol than Acetonitrile or DMF. Transition states for S_N2 reactions of similar reactions respond in much similar way to the solvents

Keywords: Substitution kinetics, solvent effects, solvation, transition state, dielectric constant

1. Introduction
A bimolecular nucleophilic substitution reaction plays an important role in Organic chemistry. Most organic reactions are carried out in solution, where solvents facilitate mixing, help to fix the reaction temperature, stabilize reactive intermediates and mediate proton transfers. Therefore, a special attention is given towards study of solvent effects on different reactions. A solvent would provide not only a background for the reaction to occur but would stabilize the reactants and the transition state by solvating them. The specific choice of solvent can make the difference between success and failure in a particular reaction. Effect of solvent is closely related to the nature and extent of solute-solvent interaction. They can extensively solvate the activated complex and can tremendously alter the properties of the nucleophile [1, 2].
Solvents influence the chemical or physical processes by solvating the substrate through vander Waals force, hydrogen bonding or by providing solvent pockets or cages for encapsulating the substrate. The functional groups present in the solvent molecule and their orientation play an important role in solvent properties [3]. The influence of solvents on chemical reaction in solution and the reactivity of bimolecular nucleophilic substitution reactions have been extensively studied over a number of years and some of the effects have been reported [3]. Comparison of rates of S_N2 reactions in protic and in dipolar aprotic solvents produce some new conclusions about reaction mechanisms, nucleophilic tendencies, leaving group tendencies, steric effects, salt effects and solvent effects [4].
The rate of the reaction can be changed by merely changing the medium in which the reaction occurs. Therefore, a proper understanding of solvent effects is essential to any model of chemical reactivity. Effect of solvents has been explained on the basis of electrostatics, solvation of solutes by solvents, internal cohesions of the solvents, nature of protic or dipolar aprotic solvents, viscosity etc.. The effect of solvents on the rate is determined by the difference in the free energies, enthalpies and entropies of solvation of reactants and the transition states [5-7]. The extent of solvation of the reactants and the activated complex can influence the reaction rates. Dielectric constant of the solvents has been most frequently used to study the effect of solvent on bimolecular nucleophilic substitution reactions. The dielectric constant determines the magnitude of forces between well separated ions in solution. Solvating power is not determined by dielectric constant alone. Solvation is the specific interaction between solvent molecules and ions, and it

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2017; 3(1): 349-353

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor 5.2
IJAR 2017; 3(1): 349-353
www.allresearchjournal.com
Received: 19-11-2016
Accepted: 20-12-2016

R Kavitha
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

S Ananthalakshmi
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Correspondence
R Kavitha
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Effect of solvents on activation parameters for the kinetics of reaction between *p*-Toluene sulfonyl Chloride with α-hydroxy acids in the presence of pyridine

R Kavitha and S Ananthalakshmi

Abstract
The kinetics of the reaction between *p*-Toluene sulfonyl Chloride (Tosyl chloride – TsCl) with α-Hydroxy acids in the presence of Pyridine has been studied at 293, 303 and 313 K in protic and aprotic solvents. Variations in reaction rate as well as activation parameters have been interpreted on the basis of solvation and dielectric properties of the solvents. Thermodynamic parameters such as activation energy (Ea), enthalpy of activation ($\Delta H^{\ddagger}$), free energy of activation ($\Delta G^{\ddagger}$) and entropy of activation ($\Delta S^{\ddagger}$) have been evaluated from the rate data. The isokinetic relationship has been verified. Analysis of activation energy, enthalpy, entropy and free energy reveals that solvation of transition state is larger in polar solvents which restrict the bond formation process. All reactions have appreciable negative entropy of activation which strongly supports the bimolecular nucleophilic displacement mechanism of these reactions.

Keywords: Substitution kinetics, Isokinetic temperature, dielectric constant, activation parameters

1. Introduction
The nucleophilic substitution at a sulfur atom has been a subject of long standing interest of organic chemists. Arylsulfonyl halides are convenient model compounds for experimental investigations of different nucleophilic processes at sulfonyl sulfur centre [1-8]. The effect of solvents plays an important role in substitution kinetics. The effect of pure solvents and mixture of solvents in various compositions on nucleophilic substitution reactions were reported in the literature [9, 10]. In kinetic studies the dependence of rate constants on structure of the reacting molecule or the solvent effects are expressed in terms of activation parameters. The parameters used are activation energy (Ea), enthalpy of activation ($\Delta H^{\ddagger}$), free energy of activation ($\Delta G^{\ddagger}$) and entropy of activation ($\Delta S^{\ddagger}$). These values are used as convenient tools for mechanistic evaluation of these reactions [11].
Extensive investigations on rate of reactions of *p*-Toluenesulfonyl Chloride with Benzoic acid(s) [12], Phenol(s) [13] and α-Hydroxy acids [14] have been reported earlier. However, there is relatively little discussion and limited data on activation parameters of these reactions. Therefore, it was decided to determine the temperature dependence of the rates and activation parameters on the reaction of *p*-Toluene sulfonyl Chloride (TsCl) with α-Hydroxy acids in the presence of Pyridine in various solvents. This paper reports and discusses the activation parameters estimated from kinetic data.

2. Materials and methods
2.1 Materials
p-Toluenesulfonyl chloride (TsCl), Glycolic acid, Lactic acid, Mandelic acid, Pyridine and solvents used (Acetonitrile, Acetone, Dimethylformamide, Benzyl alcohol, propanol and Butanol) (Analytical grade) were purified before use by recrystallization or distillation until their physical constants (melting point/boiling point) agreed with the literature values [15,16].

2.2 Kinetic measurements
The themostated solutions (±0.1 °C) of *p*-Toluenesulfonyl chloride (10 ml, 0.05 mol dm^{-3}) and the mixture of Glycolic acid - Pyridine (10ml, 0.05 mol dm^{-3}) in acetonitrile were mixed. The progress of the reaction was followed by measuring the conductance of the reaction

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJASRM

International Journal of Advanced Scientific Research and Management, Volume 3 Issue 7, July 2018

www.ijasrm.com

ISSN 2455-6378

Regression analyses of log k_2 against various solvent parameters for the reaction of *p*-toluenesulfonyl Chloride with α-hydroxy acid(s) in the presence of pyridine

R. Kavitha[1] and S. Ananthalakshmi[2*]

[1]Ph. D. Research Scholar, PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli - 620 019, Tamil Nadu, India.

[2*]Associate Professor, PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli - 620 019, Tamil Nadu, India.

Abstract

Kinetics of the reaction of *p*-toluenesulfonyl Chloride (TsCl) with α-hydroxy acid(s) in the presence of pyridine under equimolar conditions in various solvents has been studied by conductometric method. The rate constants were obtained by least square method. Kinetic data shows that the reaction follows second order kinetics and first order with respect to each of the reactants. In order to understand the effect of solvent parameters on the reaction rate, the second order rate constants were subjected to simple and multiple regression analyses. Various solvent parameters at macroscopic and microscopic levels were used. The signs of the equation co-efficient show the contribution of each parameter on the reaction rate.

Keywords: *Substitution kinetics, Sulfonyl ester, Solvent effects, Microscopic and macroscopic properties, Regression analysis*

1. Introduction

Bimolecular nucleophilic substitution (S_N2) is important in chemical synthesis, especially for interchanging functional groups and for carbon – carbon bond formation (Vollhardt K.P.C & Shore N. E, 2007). It is one of the most widely studied reactions in physical organic chemistry (Sason S *et al*, 1992). Usually, solvent effects are superimposed onto the intrinsic reaction dynamics, which strongly affects the reactivity. So, solvent effects are mainly used to predict the rate constants in solvents and to understand the various influences that might affect reaction rates.

The kinetics of the reaction of phenacyl bromide with benzoate (Krishnapillay M *et al.*, 1983), phenoxyacetates (Krishnapillay M *et al.*, 1983), and cinnamates (Krishnapillay M & Balasubramanian G, 1987) have been reported in acetone and acetone – water medium containing various amount of water. Nallu *et al.* extensively studied the effect of binary aqueous – organic solvents on the reaction of phenacyl bromide with nitrobenzoic acid(s) in the presence of triethylamine (Nallu M *et al.*, 2004) Kinetic studies on the reactions of TsCl with *p*-substituted Benzoic acids in the presence of triethylamine in aprotic solvents have been extensively studied by Ananthalakshmi and Nallu (Ananthalakshmi S & Nallu M, 2008). Vembu *et al.* have studied solvent effect on the reaction of TsCl with para substituted phenols and triethylamine (Vembu *et al.*, 2013).

Though many discussions of solvent effects on reaction rates of nucleophilic substitution processes have been reported, systematic regression

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific Research in Biological Sciences
Vol.5, Issue 4, pp. 61-65, August (2018)

Research Paper

E-ISSN: 2347-7520

Tosyl ester(s) of α-hydroxy acid(s) – Synthesis and antimicrobial studies

R. Kavitha[1]*, S. Ananthalakshmi[2]*

[1,2]PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu, India.

** Corresponding Author: sdcananthalakshmichem@gmail.com, Tel: +91 94433 09278*

Available online at: www.isroset.org

Accepted: 18/Aug/2018, Online: 30/Aug/2018

Abstract –Tosyl ester(s) of α-hydroxy acid(s) were prepared by treating the acid with *p*-toluenesulfonyl chloride (TsCl) in the presence of pyridine. The products were isolated, identified by TLC and characterized by IR, ^{1}H-NMR and ^{13}C-NMR spectral techniques. Anti microbial activity of the synthesized compounds were studied by Agar well diffusion method against two bacterial (*Escherichia Coli* and *Staphylococcus Aureus*) and two fungal (*Candida albicans* and *Aspergillus Niger*) species using Ciprofloxacin against the bacterial strains, Nystatin against *Candida albicans* and Amphotericin against *Aspergillus niger* as standard antibiotics. The results infer that the tosyl ester(s) of α- hydroxy acid(s) are potentially active against bacterial and fungal strains.

Keywords – *Tosyl esters, α-hydroxy acids, Sulfonyl sulfur, TLC technique, Antimicrobial activity, Agar well diffusion method*

I. INTRODUCTION

Tosyl esters are sulfonyl esters synthesized by treating *p*-toluenesulfonyl chloride (known as tosyl chloride and abbreviated as TsCl) with phenols / aliphatic alcohols or carboxylic acids in the presence of base. Formation of tosyl ester is a nucleophilic substitution reaction in which the oxygen of the alcohol/acid displaces the chloride ion from the tosyl chloride. Base catalyzes the reaction and neutralizes the HCl that formed in the reaction [1, 2].

II. RELATED WORK

Organo Sulfur compounds find a wide range of chemical, medicinal, biomedical and industrial applications due to their low cost and useful properties such as solubility in aqueous and organic solvents, metal complexing ability, biological compatibility and ease of chemical modification [3-5]. The various methods of preparation of tosyl esters from aliphatic alcohols, aromatic acids, sulfonic acids and phenols have been reported [6-11].

Sulfur containing drugs such as sulfonamides, sulfonyl ureas, 2-thio uracil, 6-mercapto purines etc., have extensive therapeutic usage. Some sulfur containing agrochemicals have useful biological activity. They used as insecticides, herbicides, fungicides and agaricides [12]. Sulfonyl medicines and their antibiotics are commonly used for the treatment of infections occurred by microbes [13]. Various metal complexes of indole acetic acid [14], tosyl esters of indole aceticacid and naphthalene aceticacid [15] were studied for their antimicrobial activity.

With the development of new applications in medical and other applied areas, there is a growing demand for improved and versatile methods for the synthesis and characterization of sulfonyl derivatives. Hence, we synthesized few tosyl ester(s) of α- hydroxy acid(s), characterized by spectral techniques and studied their microbiological activities against pathogenic microbes.

III. METHODOLOGY

Materials

All the chemicals such as *p*- toluenesulfonyl chloride, glycolic acid, lactic acid, mandelic acid, pyridine and acetonitrile were purified before use by recrystallization or distillation until their physical constants (melting/boiling) agreed well with the literature values [16,17]. FT-IR (KBr) spectra were recorded on Perkin Elmer RXI spectrophotometer and H^1 & C^{13} –NMR spectra were recorded on a Bruker AMX 400 MHz & 200 MHz NMR spectrometer respectively using TMS as an internal reference.

Synthesis of tosyl esters

***p*-toluenesulfonyl glycolate (PTSG)**

Equal volumes of equimolar solutions of *p*-toluenesulfonyl chloride (25ml, 0.05 mol dm^{-3}) and mixture of Glycolic acid – Pyridine (25ml, 0.05 mol dm^{-3}) in acetonitrile were mixed

© 2018, IJSRBS All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Available online at www.pelagiaresearchlibrary.com

Pelagia Research Library

Der Chemica Sinica, 2014, 5(2):62-70

Pelagia Research Library
ISSN: 0976-8505
CODEN (USA) CSHA5

Effect of binary aqueous-organic solvents on the reaction of *p*-toluene sulfonyl chloride with benzoic acid(s) in the presence of triethyl amine

Subbiah Ananthalakshmi* and Rathinam Kavitha

Department of Chemistry, Urumu Dhanalakshmi College, Tamil Nadu, Tiruchirapalli, India

ABSTRACT

Second order rate constants (k_2) for the reaction of p-toluenesulfonyl chloride with p-substituted benzoic acid(s) [X-C_6H_4COOH where X= 4-H, 4-CH_3 and 4-NO_2] in the presence of triethylamine in binary aqueous-Acetonitrile Acetone mixed solvent have been determined by conductometric method at 25-40 °C. It was found that the rate decreased with increase of water content in Acetonitrile-water binary system. In acetone-water binary system the rate increases with increase in water content to about 10% reaches a maximum and then decreases. The change in rate with change in concentration of acetone may be explained by solvation behaviour of acetone. Activation parameter (E_a, $\Delta H^{\neq}$, $\Delta S^{\neq}$, $\Delta G^{\neq}$) are evaluated from the rate data by the usual methods. Influence of solvent properties at macroscopic and macroscopic level on the rate is subjected to simple and multiple linear correlations. The log k_2 values of binary aqueous-acetone system are correlated with Grunwald-Winstein Y values. The 'm' value is found to be very low which indicates that the bond breaking and bond making would proceed to the same extent. This is the characteristic property of S_N2 reaction.

Keywords: Kinetics, binary solvent mixture, solvation, correlation, Grunwald-Winstein, solvatochromatic parameters.

INTRODUCTION

Kinetics and reaction mechanism for different reaction using various techniques has been a topic of interest for many researchers. The solvent effects play a key role in many chemical and physical processes in solutions. The study of solute-solvent interactions in binary mixtures is more complex than in pure solvents, because the solute can interact to different extent with the components of the mixture. The influence of solvents on chemical reaction in solution has been observed over a number of years by authors and some of the effects have been noted [1]. Carboxylate anions are found to be potential nucleophiles in substitution reactions. Raghavan and Kalavathy have studied the kinetics of reaction of ethyl bromoacetate with substituted phenoxy acetate ions in 90% aqueous acetone (v/v) [2]. The reaction is found to follow second order kinetics in total and first order with respect to each reactant. Second order rate constants for the reaction between benzyl chloride / phenacyl chloride and N, N-dimethylaniline have been evaluated conductometrically by Nallu *et al*. [3]. The marked effect of acetone-water solvent mixtures on the rate was found from correlation technique with log k_2 vs. Grunwald-Winstein (Y) and Kosower (Z) of solvent polarity parameters. Ranga Reddy *et al*. have determined the second order rate constants for the reaction of benzyl bromide and diphenylamine in methanol at 25-40 °C [4] and also they studied the effect of protic and dipolar aprotic solvents on the reaction of benzyl bromide and diphenylamine [5]. Effect of solvents on the reaction of Dansyl and Bansyl chlorides with substituted pyridines in methanol-acetonitrile binary mixtures at 0 °C has been studied by Sung *et al*. [6].

The second order rate constants of the reaction of *p*-toluenesulfonyl chloride with *p*-substituted benzoic acids in the presence of triethylamine in acetonitrile/acetone under equimolar and *pseudo*-first order conditions have been deteremined by conductometric method using Guggenheim principle at 25, 30, 35, and 40 °C by Ananthalakshmi

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific and Research Publications, Volume 4, Issue 5, May 2014
ISSN 2250-3153

Synthesis, Characterization and Antimicrobial Studies of Tosyl Esters of Carboxylic Acid

S. Ananthalakshmi, R. Kavitha, A. Kiruthika, S. Kalaivani

Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Abstract- Tosyl esters of Indole acetic acid and Naphthalene acetic acid were prepared by treating the acids with *p*-toluenesulfonyl chloride in the presence of a strong base triethylamine. The synthesized compounds were identified by TLC technique. IR and ^{1}H-NMR spectral measurements were carried out to characterize and elucidate the structure of the synthesized compounds. Anti microbial activity on the synthesized compounds were studied by Agar well diffusion method. The result shows that the Tosyl esters are potentially active against Bacterial and Fungal strains.

Index Terms- Tosyl esters, Sulfonyl sulfur, TLC technique, Antimicrobial activity, Agar well diffusion method

I. Introduction

Esterification of carboxylic acids with alcohols and phenols are of considerable interest. The preparation of esters from their corresponding carboxylic acids is an important and well known transformation in organic synthesis. *p*-Toluenesulfonyl chloride (TsCl) is most widely used as a tosylating agent. It is more reactive than tosyl anhydride and *p*-toluene sulfonic acid. For the preparation of tosylates, generally TsCl is used in the presence of base such as pyridine or triethylamine[1]. The various methods of preparation of tosyl esters of phenols and aliphatic alcohols have been studied by many researchers [2-4]. Nucleophilic substitution reactions of benzenesulfionyl halides [5, 6], and substituted benzyl halides [7-9] has been extensively studied. In these reactions halides are displaced by nucleophile which occurs at sulfonyl sulfur.

The organo sulfur compounds received much attention of researchers due their wide range of application in biological and chemical applications. Sulfur containing drugs such as sulfonamides, sulfonyl ureas, 2- thio uracil, 6- mercapto purines etc., have extensive therapeutic usage. Some sulfur containing agrochemicals have useful biological activity. They used as insecticides, herbicides, fungicides and agaricides. Sulfonamide derivatives of azo dyes have high light stability, water solubility and fixation to fiber [10-12].

In view of the above, we report here the synthesis and characterization of tosyl esters of Indole acetic acid and Naphthalene acetic acid. Further, the synthesized compounds were subjected to antimicrobial studies.

II. EXPERIMENTAL SECTION

Materials and methods

Materials

All the chemicals such as *p*-toluenesulfonyl chloride, Indole acetic acid, Naphthalene acetic acid, triethylamine and acetonitrile were purified before use by recrystallization or distillation until their physical constants (melting/boiling) agreed well with the literature values [13,14]. FT-IR (KBr) spectra were recorded on Perkin Elmer RXI spectrophotometer and proton NMR spectra were recorded on a Bruker AMX 400 MHz NMR spectrometer using TMS as internal reference.

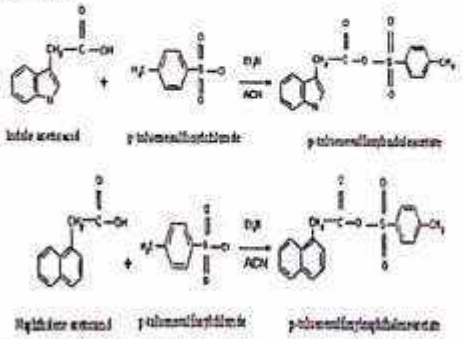
Experimental

Synthesis of compounds

Equal volumes of equimolar solution of *p*-toluenesulphonyl chloride (0.05 mol dm^{-3}, 25ml) and the mixture of Indoleaceticacid-Triethylamine (0.05 mol dm^{-3}, 25ml) in Acetonitrile were mixed thoroughly with constant stirring and kept overnight at about 30 °C. The solid product obtained was treated with ether. The upper and bottom layers were collected separately and dried over anhydrous Na_2SO_4. A solid product obtained from top layer was seperated. The bottom layer was completely evaporated in vacuum to get residue. TLC tests on both products using a mixture of methanol-ether as eluent, showed a single spot. The solid product obtained from the top layer (yield 54%) was identified as *p*-toluenesulfonylindoleacetate and the solid product obtained from the bottom layer (yield 40%) was identified as triethylammonium chloride from FT-IR (KBr) and ^{1}H ($CDCl_3$) spectral data. The schematic route of synthesis of tosyl esters of acids were given in Scheme 1.

The same procedure was adopted for the synthesis of *p*-toluenesulfonylnapthaleneacetate (yield 60%)

Scheme 1



Characterization of the synthesized compounds

Compound 1:

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol 04, Issue 08, Nov 2018

Characterisation Studies of Corbyn's Cove Beach Soil in Andamann Nicobar Islands

Dr. S. Ananthalakshmi, Research Advisor,

A. Ahilandeswari, Research Scholar,

S. Kalaivani, Research Scholar,

R. Kavitha, Research Scholar,

Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli-19, Tamilnadu, India.

drlakshmichem@gmail.com, kalaipriya81@gmail.com

Abstract - The qualitative identification of minerals in coastal soil samples of a Corbyn's Cove beach in Andamann and Nicobar Islands has been reported. The elemental composition and morphology of atmospheric particles were investigated using SEM-EDAX system. The EDAX spectrum shows the presence of dominant elements such as chloride, oxygen, sodium and also other minerals such as silica, alumina, magnesium, calcium, titanium, manganese are present in trace amounts. SEM picture of coastal soil sample was taken at 20 kv with different magnification and it depicts platy flakes and spongy structure of the soil. The submicron sized particles seem to have a rough coarse and rough morphology. Random distribution of shapes like square, and rhombohedra had been observed.

Keywords *— Andamann and Nicobar Islands, Corbyn's Cove beach, Coastal soil, EDAX, Minerals, SEM*

I. Introduction

Soil is a mixture of morganic and organic solids, air and water. Soil chemistry involves the chemical reactions and processes between these components and particularly focuses on investigating the fate of contaminants and nutrients within soils (Nyle et al 1996) The arrangement and organization of primary and secondary particles in a soil mass is known as soil structure. Soil structure controls the amount of water and air present in soil. Plant roots and germinating seeds require sufficient air and oxygen for respiration. Bacterial activities also depend upon the supply of water and air in the soil. Soil structure influences rather indirectly by formation of an array of pores of various shapes and sizes. These pores are controlling factors governing water, air and temperature in soil

Geologically, two sedimentary series are known in Andamanns, the Port Blair and the archipelago in the Andamanns, besides altered igneous intrusions of volcanic rocks. The Port Blair series consists principally of non-calcareous grey sand stone and imbedded shales, with occasional nests of poor coal, conglomerates and pale grey lime stones. The archipelago series consists of soft lime stones formed of coal and shell sand, soft calcareous sand stones and white clay with occasional conglomerates. Volcanic fragmentary rocks apparently younger appear in the Port Blair series. A turbulent ten degree channel separates Andamanns from the Nicobars which are spread over 300 kilometers and comprise of 19 islands out of which 7 are uninhabited, the Nicobars are contrastingly different from the Andamanns. In fact, these islands are the most inaccessible from the mainland India. Generally, the soil structure prevalent in the villages of the Nicobar group of islands is porous coral

The mineral analysis will give a prompt area of research and give an important tool in economic scale also. In this Present study, it is decided to carry out the qualitative determination of the Macro and Micro Constituent minerals present in the Coastal soil samples. So, the soil sample is collected from Corbyn's Cove beach in Andamann Nicobar Islands and taken for our study of interest. There are number of methods are used to identify the minerals by the conventional techniques such as Energy Dispersed X-ray Spectroscopy (EDAX) and Scanning Electron Microscopy (SEM)

EDAX is an X-ray Spectroscopic method for determining elemental compositions. It is an elemental analysis and using EDAX the presence of elements can be identified. The EDAX, popularly known as Energy Dispersive spectroscopy technique, is used for identification of different elements present in the sample. Therefore, this can be used for studying the composition of the sample

We can analyze the chemical components in a material under SEM. It is also known as SEM analysis or SEM microscopy, is used very effectively in microanalyses and failure analysis of solid inorganic materials. Electron

 DOI : 10.18231/2454-9150.2018.1075 © 2018, IJREAM All Rights Reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Available online at www.pelagiaresearchlibrary.com

Pelagia Research Library

Der Chemica Sinica, 2015, 6(11):32-36

Der Chemica Sinica

Library
ISSN: 0976-8505
CODEN (USA) CSHA5

Synthesis, characterization and biological study of aryl benzyl ethers using micelles as a phase transfer catalyst

Sangilimuthu Arunadevi*, V. Renuga and P. Sakthivel

PG & Research Department of Chemistry, Urumu Dhanalakshmi College, National College(Autonomous), Tiruchirappalli, Tamil nadu, India

ABSTRACT

A new versatile and environmental friendly approach for the synthesis of phenolic ethers by condensing dihydric phenols with benzyl/p-nitro benzyl bromide in a MeOH-water medium using anionic micelles NaLS(Sodium Lauryl Sulphate) as a phase transfer catalyst at room temperature. All the synthesized ethers were characterized by analytical and spectral methods. Their biological study had also been carried out to find out the ability of micelles to control the activity of phenolic ethers.

Key words: Dihydric phenols, benzylbromide, anionic micelles, biological activity

INTRODUCTION

Aromatic ethers and their derivatives have been studied extensively over the past decade. Day by day aromatic ethers are frequently applied for the betterment of human welfare. The importance of aromatic ethers is due to its versatile nature. A large number of aryl ethers and their derivative find applicability in agriculture, engineering and biochemistry[1]. Due to their great flexibility and structural aspects a wide range of aryl ethers have been synthesized and their functional aspects were studied. The linkage C-O-C in ether compounds has a significant role in the drug action[2]. For example diphenyl ethers and their halo derivatives have agrochemical uses such as herbicide and fungicides. Similarly, phenolic ethers find application in chemical engineering, as food colouring material, perfumes and additive of polymers[3]. Some of the ethers are used as synthetic reagents in organic reactions.

Micellar catalyzed reaction under room temperature are attractive offering reduced pollution, low cost and offer high yields with simple process and handling[4]. The salient features of this method are shorter reaction times, simple reaction conditions and enhancements in yields[5]. In this paper we have described the synthesis, physicochemical characterization and biological activities of benzyl phenyl ethers derived from dihydric phenols with benzyl/p-nitrobenzyl bromide and triethyl amine.

MATERIALS AND METHODS

All the reagents and solvents used were of labeled on the data shown in laboratory grade. Elemental analyses were performed on Carlo Ebra 1108 analyzer. Melting points were determined on a Mel-Temp melting point apparatus and are uncorrected. Infrared spectra were recorded on a perkin Elmer FT-IR spectrophotometer in wave number

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of
Nanoscience and Nanotechnology

Simple Combustion Synthesis, Structural, Morphological, Optical and Catalytic Properties of ZnO Nanoparticles

S. Rosy Christy[1, 2] · L. Sreenatha Priya[3] · M. Durka[4] · A. Dinesh[5] · N. Balaitha[1] · and S. Arunadevi[1]

[1]Department of Chemistry, Jayaraj Annapackiam College, Tamil Nadu, India
[2]Department of Chemistry, Pt. Ravishankar Shukla University, Raipur, India
[3]Department of Agricultural Microbiology, Horticultural College and Research Institute for Women, Tamil Nadu, India
[4]Department of Physics, Bharath Institute of Higher Education and Research, Bharath University, Chennai, Tamil Nadu, India
[5]PG and Research Department of Chemistry, Rajah Serfoji Government College, Thanjavur, Tamil Nadu, India

In this present study, semiconductor zinc oxide (ZnO) nanoparticles were successfully prepared by microwave irradiation (ZnO-MW) and conventional combustion (ZnO-CCM) method, respectively using *Aloe vera* plant extract as reducing agent. Crystal structure, purity and surface morphology of the samples were examined by powder X-ray diffraction (XRD), scanning electron microscopy (SEM) and energy dispersive X-ray (EDX) analysis. UV-visible diffuse reflectance (DRS) and photo-luminescence (PL) spectral studies was used to analysis the optical property and band gap energy of the samples. The antibacterial activities of ZnO nanostructures (ZnO-MW and ZnO-CCM) were tested against both gram positive (*Bacillus subtilis*, *Staphylococcus aureus*) and gram negative bacteria (*Proteus mirabilis*, *Salmonella typhi*) by modified disc diffusion method and observed enhanced activity against *P. mirabilis* and *S. typhi*. ZnO nanostructures (ZnO-MW and ZnO-CCM) were used as the photo-catalysts for the degradation of methylene blue (MB) dye and showed enhanced efficiency of degradation of MB than that of their same bulk materials. Moreover, the synthesis method is easy with low cost and time consumption and also high yield purity products.

Keywords: Nanomaterials, ZnO, Aloe Vera Plant, Antibacterial Activity, Optical Properties, Photo-Catalytic Degradation.

1. INTRODUCTION

Recently, semiconductor metal oxides with nanostructure possess certain unique properties like optical, photo-catalytic, adhesive, sensitizing behaviors etc., over their same bulk materials.[1] Particularly, zinc oxide (ZnO) nanostructures have attracted researchers on account of its high photocatalytic activity, low cost, easy fabrication, unique optical, magnetic and electronic properties etc.[2–4]

ZnO nanoparticles (NPs) have band gap energy of 3.37 eV and great excitation binding energy of 6 MeV at room temperature and it also showed excellent ultraviolet absorbance and antibacterial activity. Optical measurements confirmed the potential usage of ZnO NPs as translucent piezo electric and electro conductive materials. Several methods have been adopted for the synthesis of ZnO NPs which include hydrothermal, sol gel, chemical precipitation, microwave irradiation and conventional combustion methods resulting different structures like nanorods, nanowires, nanoflowers and nanorods. Among the above said methods, combustion method is very easy with high yield as other strategies. Moreover, microwave irradiation never produces the final products within 10 minutes of time without impurity. The optical, magnetic and catalytic properties of ZnO NPs can be altered by doping with different types of metallic ions.[5–7]

[*]Author to whom correspondence should be addressed.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ASP AMERICAN SCIENTIFIC PUBLISHERS
Copyright © 2018 American Scientific Publishers
All rights reserved
Printed in the United States of America

Journal of Nanoscience and Nanotechnology
Vol. 18, 1–7, 2018
www.aspbs.com/jnn

Enhanced Antibacterial Activity and Photo-Catalytic Properties of ZnO Nanoparticles: *Pedalium Murex* Plant Extract-Assisted Synthesis

N. Babitha[1], L. Srimathi Priya[2,*], S. Rosy Christy[3], A. Manikandan[3,*], A. Dinesh[4], M. Durka[5,*], and S. Arunadevi[1]

[1]Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli 620019, Tamil Nadu, India
[2]Department of Agricultural Microbiology, Horticultural College and Research Institute for Women, Navalur Kottapattu, Tiruchirappalli 620009, Tamil Nadu, India
[3]Department of Chemistry, Bharath Institute of Higher Education and Research (BIHER), Bharath University, Chennai 600073, Tamil Nadu, India
[4]PG and Research Department of Chemistry, Rajah Serfoji Government College, Thanjavur 613005, Tamil Nadu, India
[5]Department of Physics, Bharath Institute of Higher Education and Research (BIHER), Bharath University, Chennai 600073, Tamil Nadu, India

Semiconductor ZnO samples with two different morphologies such as nanoparticles (ZnO-NPs) and nano-sheets (ZnO-NSs) was successfully prepared by microwave heating (MHM) and modified sol-gel (SGM) method, respectively using *Pedalium Murex* plant extract as the bio-reducing agent. Structural, purity and morphology of the samples was examined by X-ray powder diffraction (XRD), scanning electron microscopy (SEM) with energy dispersive X-ray (EDX) analysis. Optical property analysis and band gap calculation were carried out by UV-Visible diffuse reflectance (DRS) and photoluminescence (PL) spectroscopy techniques. Kubelka-Munk method was used to measure the band gap of the samples and it shows 3.42 eV and 3.23 eV for ZnO-NPs and ZnO-NSs, respectively. The antibacterial activities of ZnO-NPs and ZnO-NSs against both gram positive (*Bacillus subtilis*, *Staphylococcus aureus*) as well as gram negative bacteria (*Proteus mirabilis*, *Salmonella typhi*) were tested by modified disc diffusion method and showed important antibacterial activity against *P. mirabilis* and *S. typhi*. The photocatalytic activity of ZnO nano-catalysts (ZnO-NPs and ZnO-NSs) for the degradation of methylene blue (MB) dye was studied under solar lighting and the results showed that the samples ZnO-NPs with smaller particle size considerable degradation of MB than ZnO-NSs.

Keywords: ZnO, Nanoparticles, *Pedalium Murex* Plant, Antibacterial Activity, Optical Properties, Photo-Catalytic Applications.

1. INTRODUCTION

Nowadays, an enormous quantity of interest in nano-catalysis has been focused on the medicine and photocatalytic degradation (PCD) of organic pollutants. Recently, semiconductor metal oxide nanomaterials received a lot of attention, due to its effectiveness in eradicate of dangerous materials in particular organic contaminant in the surroundings.[1] Nanostructured ZnO is an attractive wide band gap (3.37 eV) II–VI semiconductor with large exciton binding energy 60 MeV. Therefore, it is extensively preferential in all sensors materials, electrodes, LEDs, photocatalyst, optical transducers, UV light emitters, transparent solar cells, scintillation detector and bio imaging.[2–6]

ZnO semiconductor has better stability, higher shelf life, ease of storage, non-toxicity and transparentness make them convenient over predictable antimicrobial agents.[7] Moreover, nanostructured photocatalysts contain concerned increasing awareness and amongst the diverse metal

*Authors to whom correspondence should be addressed.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Arab J Sci Eng (2017) 42:2217–2227
DOI 10.1007/s13369-016-2401-2

CrossMark

RESEARCH ARTICLE - BIOLOGICAL SCIENCES

Spectroscopic Identification and Molecular Modeling of Diethyl 7-hydroxytrideca-2, 5, 8, 11-tetraenedioate: a Herbicidal Compound from *Streptomyces* sp.

P. Priya dharsini[1] · D. Dhanasekaran[1] · P. M. Gopinath[1] · K. Ramanathan[2] · V. Shanthi[2] · S. Chandraleka[3] · Bhaskar Biswas[4]

Received: 24 August 2016 / Accepted: 14 December 2016 / Published online: 17 January 2017
© King Fahd University of Petroleum & Minerals 2017

Abstract The genus *Streptomyces* is the wealthiest authority of bioactive compounds with their immense array of chemical substances and activities. With this view, about 10 soil *Streptomyces* isolates that inhibit more than a weed among *Echinochola crusigalli* L., *Amaranthus spinosus* L. and *Cyperus rotundus* L. under moist chamber and roll towel paper assay were selected from a total of 118 isolates. Based on the percentage of weed growth inhibition and paddy plant shoot growth promoting potency, the isolate DDBH019 was identified as potent, from which a novel herbicidal compound was isolated. Using the physical and chemical properties, the *Streptomyces* sp. DDBH019-derived herbicidal compound was identified as diethyl 7-hydroxytrideca-2, 5, 8, 11-tetraenedioate. Finally, the molecular dynamics simulation and docking studies validated effective interaction of herbicidal compound with weed receptors. Indeed, the present study portrays a novel lead toward the *Streptomyces* spp.-derived herbicides against chemical compounds in the agricultural field.

Keywords *Streptomyces* · Bioherbicide · Molecular docking · Molecular dynamics

✉ D. Dhanasekaran
dhansdd1@gmail.com

[1] Department of Microbiology, Bharathidasan University, Tiruchirapalli 620 024, India

[2] School of Bioscience and Technology, VIT University, Vellore 632014, India

[3] Department of Chemistry, Urumu Dhanalakshmi College, Kattur, Tiruchirapalli 620019, India

[4] Department of Chemistry, Raghunathpur College, Purulia 723133, India

1 Introduction

Recently, natural products have served as prime or starting point for the improvement and commercialization of ample agro-active compounds. Up to now, several microbial-mediated biological controls and other weed management methods in agricultural fields have been broadly made [1], particularly validating the biological metabolites as a principle or as an adjuvant bioherbicidal compound. The well-established environmentally benign, easily degradable and natural herbicide bialaphos was derived from the actinobacteria *Streptomyces hygroscopicus* and made commercially available for barnyard millet [2]. Actinobacteria are gram positive bacteria, ubiquitous in nature and playing significant role in agricultural and pharmaceutical sector [3]. Among them, the genus *Streptomyces* constitutes over 50% of soil population and are considered as economically important fertile source for the production of more than 75% of bioactive metabolites [4], especially with antibacterial [5,6], antifungal, antiparasitic [7], antitumor, anticancer [8], keratinolytic [9] and herbicidal [10,11] activity.

Studies on the phytotoxic effects of actinobacterial metabolites either alone or in combination with other agents is of great interest nowadays. Though the mechanism of phytotoxicity is not fully understood, few studies revealed an increase in abscisic acid and a decrease in indole-3-acetic acid [12] content recommending the possible interference of actinobacterial metabolites in physiological and biochemical processes of target plant [13,14]. Additionally, disruption of metabolic enzymes that are involved in glycolysis and oxidative pentose phosphate pathway of weeds was reported using zeatin riboside [12]. Despite the number of existing evidences in the recent literatures on the biological activities of actinobacterial metabolites, information regarding dual functions such as weed inhibition and plant growth pro-

3.3.2. Number of research papers per teacher in the Journals notified on UGC

J. Chem. Sci. Vol. 127, No. 4, April 2015, pp. 649–661. © Indian Academy of Sciences.
DOI 10.1007/s12039-015-0817-y

Synthesis and bio-catalytic activity of isostructural cobalt(III)-phenanthroline complexes

DHANANJAY DEY[a], ARNAB BASU ROY[a], ANANDAN RANJANI[b], LOGANATHAN GAYATHRI[b], SARAVANAN CHANDRALEKA[b,§], DHARUMADURAI DHANASEKARAN[b], MOHAMMAD ABDULKADER AKBARSHA[c], CHUNG-YU SHEN[d], HUI-LIEN TSAI[d], MILAN MAJI[e], NIRANJAN KOLE[a] and BHASKAR BISWAS[a,*]

[a]Department of Chemistry, Raghunathpur College, Purulia 723133, India
[b]Department of Microbiology, Bharathidasan University, Tiruchirappalli 620 024, India
[c]Mahatma Gandhi-Doerenkamp Centre, Bharathidasan University, Tiruchirappalli 620 024, India
[d]Department of Chemistry, National Cheng Kung University, Tainan City, 70101, Taiwan
[e]Department of Chemistry, National Institute of Technology, Mahatma Gandhi Avenue, Durgapur 713209, India
[§]*Present address*: Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli 620019, India
e-mail: mr.bbiswas@rediffmail.com; icbbiswas@gmail.com

MS received 02 July 2014; revised 06 November 2014; accepted 10 November 2014

Abstract. We have synthesized two isostructural mononuclear cobalt(III) complexes $[1]NO_3{\cdot}3H_2O$ and $[1]NO_3{\cdot}CH_3CO_2H{\cdot}H_2O$ ($[1]^+ = [Co(1,10\text{-phenanthroline})_2Cl_2]^+$) and characterized by single crystal X-ray structural analyses. Mass spectral studies of the complexes indicate both the compounds to produce identical cationic species viz., $[Co(phen)_2Cl_2]^+$ in methanol solution. $[1]^+$ has been evaluated as model system for the catechol oxidase enzyme by using *3,5-di*-tert-butylcatechol (3,5-DTBC) as the substrate in methanol medium, which revealed that the cationic complex efficiently inhibits catalytic activity with k_{cat} value 9.65×10^2 h^{-1}. $[1]^+$ cleaved pBR 322 DNA without addition of an activating agent. Further, the anti-cancer activity of $[1]^+$ on human hepatocarcinoma cell line (HepG2) has been examined. The induction of apoptosis induced in the cell line was assessed base on the changes in cell morphology, which showed the efficacy of $[1]^+$ to induce apoptosis in 53% of cells during 24 h treatment. Interestingly, the observed IC_{50} values reveal that $[1]^+$ brings about conformational change on DNA strongly and exhibits remarkable cytotoxicity.

Keywords. Cobalt(III); X-ray structure; Catecholase activity; DNA cleavage; Anti-cancer activity.

1. Introduction

Cobalt(III) compounds of polycyclic heteroaromatics with transition metals form a class of DNA interacting substances that have received considerable attention over the years, as they combine properties of traditional DNA interacting polycyclic aromatics with important photophysical and photochemical potentials offered by the metal into rigid structures spanning all three dimensions.[1–3] The design of small cationic molecules that react at specific sequences of DNA under physiological conditions via oxidative and hydrolytic cleavage has been attracting great interest in the field of bioinorganic chemistry. The application of octahedral complexes has allowed the targeting of specific DNA sites by matching the shape, symmetry and functionality of the metal complex to those of the DNA target.[4] Due to the unusual binding properties and general photo-activity, these coordination compounds are candidates available as DNA secondary structure probes, photocleavers and anti-tumour drugs.[5–8]

The oxidation of organic compounds is an important and widely used reaction in laboratory scale organic synthesis as well as in large scale chemical industry.[9–11] An ideal oxidant for any large scale oxidation reaction should be easily accessible, cheap and non-toxic like dioxygen.[12–14] It is easily available since it is present in air and the only by-product produced from its decomposition is water. In this respect, the oxidation of a wide range of *o*-diphenols (catechols), such as caffeic acid, to the corresponding quinones using molecular oxygen as oxidant and a copper enzyme Catechol Oxidase (CO_x), as catalyst has received considerable attraction to reveal mechanistic aspect, catalytic activity, product formation

*For correspondence

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Indian Journal of Chemistry
Vol. 54A, February 2015, pp. 170-178

Synthesis, crystal structure, catecholase activity, DNA cleavage and anticancer activity of a dinuclear manganese(III)-bipyridine complex

Dhananjay Dey[a], Abhranil De[a], Sukanta Pal[a], Partha Mitra[b], Anandan Ranjani[c], Loganathan Gayathri[c], Saravanan Chandraleka[d], Dharumadurai Dhanasekaran[c], Mohammad Abdulkadhar Akbarsha[c], Niranjan Kole[a] & Bhaskar Biswas[b,*]

[a]Department of Chemistry, Raghunathpur College, Purulia 723 133, India
Email: mr.bbiswas@rediffmail.com/ icbbiswas@gmail.com
[b]Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Kolkata 700 032, India
[c]Department of Microbiology, Bharathidasan University, Tiruchirappalli 620 024, India
[d]Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli 620 019, India
[e]Mahatma Gandhi-Doerenkamp Center, Bharathidasan University, Tiruchirappalli 620 024, India

Received 23 April 2014, revised and accepted 19 January 2015

Design and synthesis of a dinuclear manganese(III) complex $[Mn_2(\mu\text{-}O)(\mu\text{-}O_2CMe)_3(H_2O)_2(2,2'\text{-bipy})_2](NO_3)_2.5H_2O$ (**1**) [2,2'-bipy = 2,2'-bipyridine] with mono-μ-oxo and di-μ-acetato bridge has been reported. Single crystal X-ray diffraction study reveals that (**1**) crystallizes in monoclinic system with $P_{2_1/n}$ space group. Evaluation of (**1**) as a model system for the catechol oxidase enzyme by using 3,5-*di*-tert-butylcatechol (DTBC) as the substrate in methanol medium, reveals that the complex exhibits efficient catalytic activity with k_{cat} value of 8.89×10^3. (**1**) cleaves the pBR 322 DNA without addition of an activating agent. Further, the anticancer activity of (**1**) on human hepatocarcinoma cell line (HepG2) has been examined. The apoptosis in the cell line has been assessed by the changes in cell morphology, which shows the efficacy of (**1**) to induce 55% of apoptotic for 24 h. Interestingly, the observed IC_{50} values reveal that (**1**) effects conformational change on DNA strongly and exhibits remarkable cytotoxicity.

Keywords: Coordination chemistry, Manganese, X-ray structure, Catecholase activity, DNA cleavage, Anticancer activity

Design and synthesis of multinuclear manganese assemblies are of interest to synthetic chemists because of their fundamental applications towards metallo-biomolecules such as superoxide dismutase[1], catalase[2], photosystem II[3] of green plants, etc. Catechol oxidase is a copper enzyme having a hydroxobridged dicopper(II) center in the active site. This enzyme catalyzes the oxidation of a wide range of *o*-diphenols (catechols) to the corresponding *o*-quinones coupled with $2e/2H^+$ reduction of O_2 to H_2O, in a process known as catecholase activity[4-7]. Extensive biomimetic studies have been carried out with dicopper(II) complexes, derived from nitrogen-containing dinucleating ligands, as the model compounds[4,5]. Some mononuclear, dinuclear, and oligonuclear systems of manganese acting as catalysts for catecholase activity, are known[8-10]. Structures of several binuclear Mn(III) complexes along with magnetic properties of the $[Mn_2(\mu\text{-}RCOO)_2(\mu\text{-}O)]^{2+}$ core have been described in the literature[11-15]. Though the perchlorate salt of the dinuclear cation, $[Mn_2(\mu\text{-}CH_3COO)_2(\mu\text{-}O)]^{2+}$ has been previously reported[14,15] but we have synthesized the nitrate salt of the same cationic dinuclear unit using a different methodology. The examples of the dinuclear $Mn^{III}Mn^{III}$ catalyst for catechol oxidation are very limited[16]. Since carboxylate is a suitable leaving group for incoming catecholate moiety to show catecholase activity, it is of interest to explore such catalytic aspect with the dinuclear $Mn^{III}Mn^{III}$ compounds having carboxylate bridges.

The design of small cationic molecules that react at specific sequences of DNA under physiological conditions via oxidative and hydrolytic cleavage has been of great interest in the field of bioinorganic chemistry. The application of octahedral complexes has allowed the targeting of specific DNA sites by matching the shape, symmetry and functionality of the metal complex to that of the DNA target[17]. Due to the unusual binding properties and general photo-activity, these coordination compounds were suitable candidates as DNA secondary structure probe, photocleavers and antitumor drugs[18-20]. Herein, we have synthesized and crystallographically characterized a dinuclear acetato-oxo-manganese(III) complex containing 2,2'-bipyridine at room temperature. We have investigated the catalytic activity of $[Mn_2(\mu\text{-}O)(\mu\text{-}O_2CMe)_2(H_2O)_2(2,2'\text{-}$

3.3.2. Number of research papers per teacher in the Journals notified on UGC

J. Indian Chem. Soc.,
Vol. 91, July 2014, pp. 1-10

Synthesis and spectroscopic characterization of a dinuclear nickel complex : A bio-relevant catalyst and its reactivity

Dhananjay Dey[a], Sukanta Pal[a], Saravanan Chandraleka[b], Dharumadurai Dhanasekaran[b], Niranjon Kole[a] and Bhaskar Biswas[a]*

[a]Department of Chemistry, Raghunathpur College, Purulia-723 133, West Bengal, India

*E-mail: bbiswas@rediffmail.com

[b]Department of Microbiology, Bharathidasan University, Tiruchirappalli-620 024, Tamilnadu, India

Manuscript received online 28 December 2013, revised 14 February 2014, accepted 25 February 2014

Abstract A new dinuclear nickel(II) complex, $[Ni_2L(\mu\text{-}CH_3CO_2)_2(H_2O)_2]$ (1), of a (N,O)-donor Schiff base ligand (H_2L = 2-((2-hydroxyphenylimino)methyl)-6-methoxyphenol) has been synthesized and isolated in crystalline phase. The nickel(II) complex has been characterized by elemental analysis, FTIR, UV-Vis spectroscopy, Powder X-ray diffraction study (PXRD), ESI mass spectrometry and thermogravimetric analysis. PXRD revealed that 1 crystallizes in $P\bar{1}$ space group with a = 9.83577 Å, b = 9.86839 Å, c = 25.21101 Å with unit cell volume is 2473.136 Å^3. The nickel(II) complex displays significant catecholase oxidation activity in methanol medium. The interaction between the complex and calf thymus DNA (CT-DNA) has been investigated using spectrophotometric and spectrofluorometric techniques and it also been found to induce effective cleavage of the supercoiled pBR 322 DNA. The activity data show that the nickel(II) complex has effectively screened bacterial and fungal activity.

Keywords : Nickel(II), Schiff base, catecholase activity, DNA binding, DNA cleavage, antimicrobial activity.

Introduction

Structure and reactivity studies of nickel(II) complexes of (N,O)-donor ligands have been considered to be important in the bioinorganic chemistry owing to the biological relevance of such complexes in the context of metalloenzymes[1,2]. In spite of the very rich coordination chemistry of nickel, its biochemical significance is not well developed. All types of nickel enzymes known to date are of plant or bacteria origins[3-5]. In the past few years, considerable interest has been grown in searching for small coordination molecules that exhibit enzymatic activity to mimic the structure as well as the functional properties of metalloproteins[6,7].

Metal complexes that are able of binding and cleaving DNA hydrolytically and selectively would be highly desirable as they do not require any external agents and this gives valuable information to explore the potential chemotherapeutical agents[8]. Further, the sequence specific nature of the DNA cutting has been proved rather that a binding event is central to scission mechanism[9]. This has resulted in the development of several artificial metallonucleases which have potential applications as therapeutic agents and as a versatile replacement for restriction as laboratory tools[10-12]. However, there are only a few reports on the utilization of nickel complexes to cleave plasmid DNA[13]. In this present study we report a design and synthesis of an octahedral dinuclear nickel(II) complex with a (N,O)-donor Schiff base ligand (H_2L = 2-((2-hydroxyphenylimino)methyl)-6-methoxyphenol). The bioactivity of the Ni^{II} complex has been investigated through catechol oxidation, CT-DNA binding, studies, pBR 322 DNA cleavage activity and antimicrobial activity.

Results and discussion

Synthesis and solution properties of the Ni^{II} complex

The complex 1 was prepared by treating nickel(II) acetate with the Schiff base ligand in 2 : 1 molar ratio in methanol as solvent. The complex 1 has been isolated as brown coloured crystalline compound. Based on elemental analysis and other fundamental spectroscopic techniques, the complex 1 was formulated as $[Ni_2L(\mu\text{-}CH_3CO_2)_2(H_2O)_2]$. The complex was soluble in common

3.3.2. Number of research papers per teacher in the Journals notified on UGC

J. Indian Chem. Soc.,
Vol. 91, July 2014, pp. 1267-1276

Synthesis and spectroscopic characterization of a dinuclear nickel complex : A bio-relevant catalyst and its reactivity

Dhananjay Dey[a], Sukanta Pal[a], Saravanan Chandraleka[b], Dharumadural Dhanasekaran[b], Niranjan Kole[a] and Bhaskar Biswas*[a]

[a]Department of Chemistry, Raghunathpur College, Purulia-723 133, West Bengal, India

E-mail : mr.bbiswas@rediffmail.com

[b]Department of Microbiology, Bharathidasan University, Tiruchirappalli-620 024, Tamilnadu, India

Manuscript received online 28 December 2013, revised 14 February 2014, accepted 15 February 2014

Abstract : A new dinuclear nickel(II) complex, $[Ni_2(L)(\mu\text{-}CH_3CO_2)_2(H_2O)_3]$ (1), of a (N,O)-donor Schiff base ligand (H_2L = 2-((2-hydroxyphenylimino)methyl)-6-methoxyphenol), has been synthesized and isolated in crystalline phase. The nickel(II) complex has been characterized by elemental analysis, FTIR, UV-Vis spectroscopy, Powder X-ray diffraction study (PXRD), ESI mass spectrometry and thermogravimetric analysis. PXRD revealed that 1 crystallizes in P-1 space group with a = 9.83572 Å, b = 9.86839 Å, c = 15.21101 Å with unit cell volume is 1471.136 (Å)^3. The nickel(II) complex displays significant catecholase oxidation activity in methanol medium. The interaction between the complex and calf thymus DNA (CT-DNA) has been investigated using spectrophotometric and spectrofluorimetric techniques, and it also been found to induce effective cleavage of the supercoiled pBR 322 DNA. The activity data show that the nickel(II) complex has effectively screened bacterial and fungal activity.

Keywords : Nickel(II), Schiff base, catecholase activity, DNA binding, DNA cleavage, antimicrobial activity.

Introduction

Structure and reactivity studies of nickel(II) complexes of (N,O)-donor ligands have been considered to be important in the bioinorganic chemistry owing to the biomimetic nature of such complexes in the context of metalloenzymes[1,2]. In spite of the very rich coordination chemistry of nickel, its biological significance is not well developed. All types of nickel enzymes known to date are of plant or bacteria origins[3-5]. In the past few years, considerable interest has been grown in searching for small coordination molecules that exhibit enzymatic activity to mimic the structure as well as the functional properties of metallobiosites[6,7].

Metal complexes that are able of binding and cleaving DNA hydrolytically (and selectively) would be highly desirable as they do not require any external agents and this gives valuable information to explore the potential chemotherapeutical agents[8]. Further, the sequence specific nature of the DNA cutting has been proved earlier that a binding event is central to scission mechanism[9]. This has resulted in the development of several artificial metallonucleases which have potential applications as therapeutic agents and as a versatile replacement for nucleases as laboratory tools[10-12]. However, there are only a few reports on the utilization of nickel complexes to cleave plasmid DNA[13]. In this present study, we report a design and synthesize of an octahedral dinuclear nickel(II) complex with a (N,O)-donor Schiff base ligand [H_2L = 2-((2-hydroxyphenylimino)methyl)-6-methoxyphenol]. The bioactivity of the Ni^{II} complex has been investigated through catechol oxidation, CT-DNA binding studies, pBR 322 DNA cleavage activity and antimicrobial activity.

Results and discussion

Synthesis and solution properties of the Ni^{II} complex :

The complex **1** was prepared by treating nickel(II) acetate with the Schiff base ligand in 2 : 1 molar ratio in methanol as solvent. The complex **1** has been isolated as brown coloured crystalline compound. Based on elemental analysis and other fundamental spectroscopic techniques the complex **1** was formulated as $[Ni_2(L)(\mu\text{-}CH_3CO_2)_2(H_2O)_3]$. The complex was soluble in common

3.3.2. Number of research papers per teacher in the Journals notified on UGC

academicJournals
Vol. 8(10), pp. 162-175, October, 2014
DOI: 10.5897/AJPAC2014.0592
Article Number: B58355848367
ISSN 1996 - 0840
Copyright © 2014
Author(s) retain the copyright of this article
http://www.academicjournals.org/AJPAC

African Journal of Pure and Applied Chemistry

Full Length Research Paper

Synthesis, characterization and thermal analysis of the copper(II) complexes with 2,2'-bipyridyl and 1,10-phenanthroline

S. Chandraleka[1]* and G. Chandramohan[2]

[1]Department of Chemistry, Urumu Dhanalakshmi College, Kattur, Tiruchirppalli-620 019, Tamil Nadu, India.
[2]Department of Chemistry, A.V.V.M. Sri Pushpam College (Autonomous), Poondi 613 503, Thanjavur District, Tamil Nadu, India.

Accepted 16 October, 2014

The Cu(II) complexes were synthesized by the addition of Cu(II) acetate monohydrate to ligand in aqueous solution with 1,10-phenanthroline and 2,2'-bipyridyl which led to the precipitation of complexes. The synthesized Cu(II) complexes [Cu(SAla)phen(H_2O)].H_2O, [Cu(SAla)bpy(H_2O)].H_2O were found to be soluble in water, ethanol, methanol and DMSO. The electronic spectra and the magnetic moment support the stereochemistry of the complexes. The electronic spectra of all the complexes display a broad band with maximum at 14765 to 15503 cm^{-1}, which suggested an octahedral geometry of the metal ion. The magnetic moment at the room temperature lying in the range of 1.78 to 2.09 BM corresponds to one unpaired electron which are slightly greater than the spin only value of 1.73 BM, which was expected for one unpaired electron which offer possibility of the paramagnetic nature. The electronic spectra of free ligand shows band at 35651 cm^{-1} which are intra ligand charge transfer band (INCT). The electronic absorption spectra of the schiff base complexes were recorded using DMSO solvent. The spectrum of Cu(II) complexes display a broad band at 14765 cm^{-1}, which attributed to $^2Eg \rightarrow {}^2T_2g$ transition, which strongly favours the octahedral geometry around the central metal ion. The thermal gravimetric analysis (TGA), derivative thermogravimetric analysis (DTG), differential thermal analysis (DTA) experiments were carried out to explore the thermal stability of the complexes. The thermal behaviours of all the metal complexes were studied in the temperature range of 0 to 1400°C. The TGA, DTG and DTA studies of complexes reveal that the decomposition proceeds in three steps.

Key words: Copper(II) complexes, 2,2'-bipyridyl, 1,10-phenanthroline.

INTRODUCTION

Organo metallic chemistry has been developed, in the last four decades, to be the largest and important branch as a link connecting the fields of organic and inorganic chemistry. One of the major applications of the transition metal complexes is its medical testing as antibacterial and antitumor agents aiming toward the discovery of an

*Corresponding author. E-mail: lekaadd2007@gmail.com, chandramohan1959@gmail.com
Author(s) agree that this article remain permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

3.3.2. Number of research papers per teacher in the Journals notified on UGC

www.sphinxsai.com

ChemTech

International Journal of ChemTech Research
CODEN (USA): IJCRGG ISSN : 0974-4290
Vol.6, No.14, pp 5450-5457, Nov-Dec 2014

Larvicidal activity of copper(II) complexes with 1,10 phenathroline and 2,2'-bipyridyl against *Culex* and *Anopheles* mosquito larvae

S. Chandraleka[1]*, G. Chandramohan[2]

[1]Department of Chemistry, Urumu Dhanalakshmi College, Kattur, Tiruchirppalli-19, Tamil Nadu, India
[2]Department of Chemistry, A.V.V.M. Sri Pushpam College (Autonomous), Poondi 613 503, Thanjavur District, Tamil Nadu, India

*Corres.author: Email: lekaadd2007@gmail.com

Abstract: In the present study five ligands such as alanine(H_2SAla), phenylalanine (H_2SPhe), leucine (H_2SLeu), isoleucine(H_2SIle), tryptophan (H_2STrp) were prepared by the addition of respective aminoacids with salicylaldehyde. Totally 10 Cu(II) complexes were synthesized by the addition of Cu(II) acetate monohydrate to ligand in aqueous solution with 1,10-phenanthroline and 2,2'-bipyridyl which led to the precipitation of complexes. Totally ten Cu(II) complexes were studied for mosquito larvicidal and Cu(II) complexes were investigated at a concentration of 0.5% of each compound against *Culex* early instar larvae. Thus the larvicidal effect may make these complexes to serve as potential insecticidal agents in mosquito control strategy. The Cu(II) complexes [Cu(SAla)phen(H_2O)].H_2O, [Cu(SAla)bpy(H_2O)].H_2O were found to cause mortality of the larvae after 18 hours. The mortality of larvae was seen after 24 hour itself for all the other metal complexes. Hence the above two complexes were chosen for LC_{30}, LC_{90} analysis in *Culex* and *Anopheles* mosquito larvae.

Introduction

The complexes of transition metals with amino acids in proteins and peptides are utilized in numerous biological processes, such as oxygen conveyer, electron transfer and oxidation. In these processes, the enzymatic active site, which is very specific, forms complexes with divalent metal ions (1). 1,10-phenanthroline (1,10-phen), 2,2'-bipyridine (2,2'-bipy) and their substituted derivatives, both in the metal-free state and as ligands coordinated to transition metals, disturb the functioning of a wide variety of biological systems. When the metal-free N, N-chelating bases are found to be bioactive it is usually assumed that the sequestering of trace metals is involved, and that the resulting metal complexes are the actual active species.

Mosquitoes which transmit a number of diseases such as malaria (*Anopheles)*, filariasis (*Culex, Mansonia*) and dengue (*Aedes aegypti*) etc., and cause millions of deaths every year, are the most important group of insects in term of public health (2). *Anopheles stephensi* is a major malarial vector in India. Currently, about 40% of the world's total population lives in areas where malaria is endemic (3). *Culex quinquesfasciatus* is one of the potential vectors of *Wuchereria bancrofti*, the causative agent of human lymphatic filariasis infecting over 120 million people all over the world (4).

To prevent mosquito borne diseases and improve public health it is necessary to control them. The approach to combat these diseases largely relied on interruption of the disease transmission cycle by either targeting the mosquito larvae through spraying of stagnant water breeding sites or by killing the adult mosquitoes using insecticides. But in recent years, mosquito control programmes have been suffering from failures because of increased insecticide resistance (5). Besides insecticidal resistance repeated use of synthetic

3.3.2. Number of research papers per teacher in the Journals notified on UGC

TBAP 4 (2) 2014 pp 71 - 88

Taylor & Francis
Taylor & Francis Group

ISSN Print: 2231-1866
ISSN Online: 2231-1874

Isolation, Characterization of Antibacterial Methyl Substituted β-Lactum Compound from *Streptomyces noursei* DPTD21 in Saltpan Soil, India

Dhanasekaran Dharumadurai [1]*, Panneerselvam Annamalai [2]
Thajuddin Nooruddin [1], Chandraleka Saravanan [3]

[1] Department of Microbiology, School of Life Sciences,
Bharathidasan University, Tiruchirapalli-620 024, India
[2] P.G. & Research Department of Botany & Microbiology, A.V.V.M. Sri Pushpam College,
(Autonomous), Poondi, 613 503, Thanjavur District, Tamil Nadu, India
[3] Department of Chemistry, Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli -620019, India

Received 19 June 2013; accepted in revised form 22 October 2013

Abstract: The taxonomic position of an actinobacteria isolated from the Indian saltpan was established the phenotypic and genotypic characteristics. The actinomycete isolate DPTD21 had chemotaxonomic and morphological characteristics consistent with its classification in the genus *Streptomyces* and formed a distinct phyletic line in the 16S rDNA gene sequence analysis. The prominent cellular fatty acid were tridecanoic acid (C13:0), penta cosanoic acid (C25:0) and unsaturated fatty acids such as palmitic acid (C16:1), elaidic acid (C18:10). The DNA GC content was 60 %. The isolate DPTD21 (MTCC 6704, DQ 279757) was considered to be a type strain of genus *Streptomyces* for which the name *Streptomyces noursei* is proposed. The antibacterial compound was characterized and identified by determination of melting point, elemental analysis and spectroscopical evaluation such as UV, IR, NMR and Mass spectra. On the basis of physical and chemical properties of the antibacterial compound isolated from *Streptomyces noursei* DPTD21 was identified as methyl substituted β-lactum compound. This compound was dissolved in three solvents. The maximum inhibition of the compound was observed against *E. coli*, but resistant to pyridine solvent. Moderate level of inhibition (mm) was observed with *V. cholerae* (13.0±0.77) in aniline, *S. dysenteriae* (14.5±0.4) in petroleum ether, *P. aeruginosa* (15.5±0.41) in ethyl acetate and *K. pneumoniae* (14.16±0.49) in ethyl acetate.

Key words: Marine *Streptomyces*, Salt pan soil, 16S rDNA analysis, antibacterial activity.

Introduction

Marine actinobacteria constitute an important and potential source of novel bioactive compounds [1]. Since environmental conditions of the sea are extremely different from terrestrial conditions, they produce different types of antibiotics. *Streptomyces* produce a wide variety of antibiotics and continue to be a major source of useful secondary metabolites [2]. The isolation and subsequent screening of *Streptomyces* spp. from diverse habitats is important for the identification of useful strains that produce novel bioactive compounds.

Identification and classification are the difficult part in actinobacteria research in traditional systems. Several biochemical tests are performed and with the description of Shirling and Gottlieb [3]; Nonomura [4] and Tresner *et al.*,[5] identification

*Corresponding author (Dhanasekaran Dharumadurai)
E-mail: < dhansdd@gmail.com >

© 2014, Har Krishan Bhalla & Sons

3.3.2. Number of research papers per teacher in the Journals notified on UGC

9

Spectroscopic Techniques in Analysis of Environmental Pollutant

S. CHANDRALEKA[1]* AND G. CHANDRAMOHAN[2]

ABSTRACT

Understanding the composition of particles in the atmosphere is critical because of their health effects and their direct and indirect effects on radiative forcing, and hence on climate. In this chapter, we demonstrate the utility of single particle off–line analysis to investigate the chemistry of individual atmospheric particles using modern, state–of–the–art spectroscopy and time–of–flight secondary ionization mass spectrometry techniques. These methods provide specific, detailed data on particle composition, chemistry, morphology, phase and internal structure. UV light transmittance, the absorbance measurement of vaporized monoaromatic hydrocarbons in soil gas extracted from petroleum–contaminated soils was proposed. In the fixed system that exhibited higher sensitivity than the portable one, the absorbance intensity of benzene, toluene, ethylbenzene, and xylene increased in proportion to the concentration of the contaminants. The obtained data offers a rich set of qualitative and quantitative information on the particle chemistry, composition and the mechanisms of gas particle interactions which are of high importance to atmospheric processes involving particulate matter environmental monitoring UV, FT–IR, Mass spectroscopy, X–ray, NMR spectroscopy analysis of pollution control.

Key words: Spectroscopy, UV–spectroscopy, FT–IR, X–ray photoelectron spectroscopy, Mass spectroscopy

[1] Department of Chemistry, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli–19, Tamil Nadu, India.
[2] Department of Chemistry, A.V.V.M. Sri Pushpam College (Autonomous), Poondi 613 and Jairams Arts & Science College, Karur-3, Tamil Nadu, India.
*Corresponding author: E-mail: lekaadd2007@gmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC

JASC: Journal of Applied Science and Computations ISSN NO: 0076-5131

Optimization of Process Parameters on Removal of Nickel from Plating Waste Water using Taguchi Method

Ananthalakshmi Subbaiah[1], Kalaivani Subramanian[2], Mohan Raj[3], Kavitha[4]
[1]Research Advisor, [2,3,4] Research Scholars
Department of Chemistry, Urumu Dhanalakshmi College,
Tiruchirappalli 19, Tamilnadu, India
drlakshmichem@gmail.com,kalaipriya81@gmail.com

***Abstract*— Industrial effluents from nickel electroplating industries contain high amounts of nickel ions. They are non-biodegradable and highly toxic. The current plan of the work involves studies on Effect of each of Current Density(Cd) (0.2, 0.6 and 1.0 Amp/ dm2), initial concentrations (Ic) (100ppm, 250ppm and 500ppm) and time (t) (5 min, 30min and 120min) The optimum conditions for maximum removal of nickel were studied. Experiments were conducted based on the plan of experiments generated by L9(3)4 . A L9 Orthogonal array was selected for analysis by Taguchi technique. The effects of all three input process parameter on the only one output response of Nickel removal have been analyzed and validated using analysis of variance (ANOVA).**

***Keywords*— Nickel, Wastewater, Electrocoagulation, Taguchi, ANOVA**

I. INTRODUCTION

The continued disposal of huge amount of water from different industrial process results in the pollution of air, water and land. Enormous growth of various chemical and electrochemical industries globally is demanding new methodologies to recycle water for internal utility of the industries. Legislative and normative regulations towards achieving zero discharge norms, is changing the treatment scenario before the discharge of industrial process water. The commonly used physico-chemical treatment processes required quantity of toxic sludge. Since a lot of additional chemical burdens and great quantity of toxic sludge is generated in this method. Therefore, there is an urgent need to develop innovative and more effective techniques for treatment of wastewaters. Industrial effluents from nickel electroplating industries contain high amounts of nickel ions and they are non-biodegradable and highly toxic. Only 30-40 per cent of the metals used in plating processes are effectively utilized.

Nickel is a toxic heavy metal and nickel compounds, for instance nickel sulphide, are suspected to cause cancer. Waste streams from nickel electroplating industries may contain up to 500 ppm Ni^{2+} ions, which according, to environmental regulations worldwide must be controlled to an acceptable level (<2ppm) before being discharged to the environment. Several treatment processes have been suggested for the removal of Ni^{2+} ions from aqueous waste streams: adsorption, biosorption, ion exchange, chemical precipitation and electrochemical methods: electro-winning, electro-dialysis, electro-deionization, membrane-less electrostatic shielding based electro dialysis/electro-deionization and electrocoagulation.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(5): 2198-2201
Received: 19-07-2018
Accepted: 21-08-2018

S Ananthalakshmi
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

A Ambethkar
Department of Botany, Periyar EVR College, Tiruchirappalli, Tamil Nadu, India

R Kavitha
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Kalaivani
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
S Ananthalakshmi
Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

GC-MS analysis on the methanolic extract of *Trichosanthes anguina* L. root and leaves

S Ananthalakshmi, A Ambethkar, R Kavitha and S Kalaivani

Abstract
Phyto Chemical Screening of *Trichosanthes anguina* L. (snake gourd) root and leaves were done by GC-MS analysis for the identification of secondary metabolites. In this paper, the results of the analysis of methanolic extract analysed by GC MS technique (Thermo GC Trace Ultra Version 5.0, Fisher, USA) are presented. The 1.0 ml mm volume of methanolic extract sample was injected into the instrument and the compounds are identified and analyzed by splitless injection technique. The compounds were separated using Helium (1.0 ml mm) as the carrier gas. The GC-MS analysis for *Trichosanthes anguina* L. provides eight major peaks determining the presence of twelve major compounds namely ester (15.13%), alcohol (2.12 %), hetero cyclic compound (19.67%), amine/amide (0.51/0.41%), thioether (0.51%), diene (9.88%), aldehyde (9.88 %), nitro compound (1.35 %), ketone (0.56%), alkene (0.56 %), amino compound (1.17 %) and amino acid (0.61%). The presence of various main bioactive compounds namely furan, pyrrole-1-oxide, 4-cyanomethyl-3- pyrrolepropione, nitrilemethyl esters, hetero cyclic compounds which confirm the medicinal importance of the plant.

Keywords: Phytocomponents, *Trichosanthes anguina* L. methanolic extract, medicinal plants

Introduction
Nature has bestowed on us a very rich botanical wealth and a large number of diverse types of plants which grow in different parts of the country. Herbal medicine plays an important role in health care programs in the developing countries. *Trichosanthes anguina L.* is mainly constituted with a series of secondary metabolites as flavonoids, carotenoids, phenolics acids, etc. The nutritional values make the plant pharmacologically and therapeutically active. It has a prominent place in alternative system of Ayurvedic and Siddha medicine due to the various Paramacological activities like anti-diabetic, hepta-protective, cytotexins, anti-inflammatory and carvicidal effects (Longman, 2002) [1]. The species possess antiviral compounds like *Trichosanthin and Trichoanguin*. The *Trichosanthin* is reported to have anti-HIV properties (Ferrari *et al*, 1991). These compounds have been used in the treatment of skin diseases, cough, ulcer etc. The plant is known as an appetizer, digestive, germicide, laxative and aphrodisiac (Sivarajan and Balachandran, 1994, Chatterjee and Prakashi, 1997) [2, 3].

Plants remain a major source of Pharamaceuticals and fine chemicals. Plants produce an array of natural products which are known as" *Secondary Metabolites*". They are not essential for plant growth and are normally produced in small amount (Kim *et al*., 2002) [4]. The utilization of plant cells, tissues or organs for the production of natural and recombinant compounds of commercial interest has gained increasing attention over the past decade (Center *et al* 2005, Murthy *et al*, 2008) [5, 6].

Screening of active compounds extracted from the plants has led to the invention of new medical drugs which have efficient protection and treatment roles against various diseases including cancer. (Sheeja and Kuttan, 2007) [7] and alzheimers disease (Mukherjee *et al*, 2007) [8]. Flavonoid 'quercetin' was isolated and identified from the leaf and not of citrullus colocynthis (Meena and Patni, 2008) [9]. The dried samples were separately extracted in 80% methanol.

A variety of instruments and devices are available for the estimation of secondary metabolites. Of which a gas chromatography – mass spectrometry (GC-MS) analysis is a versatile technique used for the identification and analysis of secondary metabolites present in the plants. In this work it is decided to identify the phyto components from *Trichosanthes anguina* L. leaf extract by GC-MS analysis.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2016; 2(11): 317-321

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(11): 317-321
www.allresearchjournal.com
Received: 17-09-2016
Accepted: 18-10-2016

R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Ananthalakshmi
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Kinetic studies on the reaction of *p*-Toluenesulfonyl chloride with α-Hydroxy acids in the presence of pyridine in acetonitrile

R Kavitha and S Ananthalakshmi

Abstract
The kinetic studies on the reaction of *p*-Toluenesulfonyl Chloride (TsCl) with α-Hydroxy acids in the presence of Pyridine under equimolar and *pseudo* first order conditions in Acetonitrile at 20, 30 and 40 °C have been studied by conductometric method. The rate constants were obtained by the least square method. Kinetic data shows that the reaction follows second order kinetics and first order with respect to each of the reactants. The attacking nucleophile is found to be a hydrogen bonded ion pair. Thermodynamic parameters have been evaluated by using kinetic data. The entropy of activation is negative as expected for bimolecular reactions. Kinetic data and product analysis indicate that the reaction proceeds through direct nucleophilic attack on the sulfur center.

Keywords: Substitution kinetics, sulfonyl ester, hydrogen bonded ion-pair, activation parameters, isokinetic temperature

1. Introduction
Chemical kinetics is the study of rate of chemical processes which includes investigations of a reaction in different experimental conditions and their influences on the speed of chemical reaction. The various factors such as concentration, pressure, temperature, medium, effect of catalyst etc., decides the rate of reaction [1]. Kinetic studies provide information about the transition state and reaction mechanism. The mechanism tells about the changes in arrangement of electrons in the starting materials that led to products and help us to generate hypotheses about the rate and stereo chemical aspects of the reaction. The interpretation of the reaction mechanism is based on the rate of the reaction and product analysis [2].
A lot of kinetic studies were done on the nucleophilic substitution reactions between triethyl ammonium carboxylates and active organic halides containing saturated carbon atom[3-10]. Aryl sulfonyl halides are acted as a good substrate for nucleophilic substitution processes at sulfonyl sulfur [11-15], and especially Benzenesulfonyl halides attracted much interest. Nucleophilic substitution of sodium benzoate(s) with Benzenesulfonyl chloride in methanol follows S_N2 mechanism and the nucleophilic substitution takes place at sulfonyl sulphur [16]. S. Ozturk and H. Kutuk have reported the kinetics of nucleophilic substitution reaction of *p*-substituted arylsulfonylphthalimides with several amines in acetonitrile [17]. Kinetic studies on the reactions of TsCl with *p*-substituted Benzoic acids in the presence of triethylamine in aprotic solvents has been extensively studied by Ananthalakshmi and Nallu [18]. They concluded that the reaction follows second order kinetics with respect to the whole and first order with respect to each of the reactants. Similar investigation on the reaction of TsCl with *p*-substituted phenols and triethylamine in acetone and acetonitrile were reported in the literature [19]. The electron withdrawing chlorine on sulfur atom in TsCl induces an electron deficient centre at the tetra coordinated sulfur atom and thereby facilitates the approach of a nucleophile towards the sulfur atom.
The literature reviewed indicates that few kinetic studies have made on nucleophilic substitution at sulfonyl sulfur centre by acids/phenols in the presence of tertiary base, and the kinetic studies of TsCl with α-Hydroxy acids (such as Glycolic acid, Lactic acid, Mandelic acid etc) in the presence of base have not been reported yet. Thus, we planned to investigate the nucleophilic substitution reaction of TsCl with α-Hydroxy acids in the presence of Pyridine in Acetonitrile.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2017; 3(1): 354-357

International Journal of Applied Research

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(1): 354-357
www.allresearchjournal.com
Received: 20-11-2016
Accepted: 21-12-2016

R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

S Ananthalakshmi
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Correspondence
R Kavitha
PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

Effects of solvents on kinetics of the reaction between *p*-Toluenesulfonyl Chloride and α-Hydroxy acids in the presence of pyridine

R Kavitha and S Ananthalakshmi

Abstract
The rate constants for the reaction of *p*-Toluenesulfonyl Chloride with α-Hydroxy acids in the presence of Pyridine in various polar aprotic, protic and nonpolar solvents have been investigated. The rate constants of the reaction are 3 – 50 times higher in polar aprotic solvents than in protic solvents. The solvent effects can be explained on the basis of solvation of anions in polar aprotic and protic solvents. The contributions of hydrogen bonding in solvation are discussed. Solvation of S_N2 transition state anions depends on the nature of entering and leaving group. The transition state for these reactions is greatly solvated by methanol than Acetonitrile or DMF. Transition states for S_N2 reactions of similar reactions respond in much similar way to the solvents

Keywords: Substitution kinetics, solvent effects, solvation, transition state, dielectric constant

1. Introduction
A bimolecular nucleophilic substitution reaction plays an important role in Organic chemistry. Most organic reactions are carried out in solution, where solvents facilitate mixing, help to fix the reaction temperature, stabilize reactive intermediates and mediate proton transfers. Therefore, a special attention is given towards study of solvent effects on different reactions. A solvent would provide not only a background for the reaction to occur but would stabilize the reactants and the transition state by solvating them. The specific choice of solvent can make the difference between success and failure in a particular reaction. Effect of solvent is closely related to the nature and extent of solute-solvent interaction. They can extensively solvate the activated complex and can tremendously alter the properties of the nucleophile [1, 2].
Solvents influence the chemical or physical processes by solvating the substrate through vander Waals force, hydrogen bonding or by providing solvent pockets or cages for encapsulating the substrate. The functional groups present in the solvent molecule and their orientation play an important role in solvent properties [3]. The influence of solvents on chemical reaction in solution and the reactivity of bimolecular nucleophilic substitution reactions have been extensively studied over a number of years and some of the effects have been reported [3]. Comparison of rates of S_N2 reactions in protic and in dipolar aprotic solvents produce some new conclusions about reaction mechanisms, nucleophilic tendencies, leaving group tendencies, steric effects, salt effects and solvent effects [4].
The rate of the reaction can be changed by merely changing the medium in which the reaction occurs. Therefore, a proper understanding of solvent effects is essential to any model of chemical reactivity. Effect of solvents has been explained on the basis of electrostatics, solvation of solutes by solvents, internal cohesions of the solvents, nature of protic or dipolar aprotic solvents, viscosity etc., The effect of solvents on the rate is determined by the difference in the free energies, enthalpies and entropies of solvation of reactants and the transition states [5-7]. The extent of solvation of the reactants and the activated complex can influence the reaction rates. Dielectric constant of the solvents has been most frequently used to study the effect of solvent on bimolecular nucleophilic substitution reactions. The dielectric constant determines the magnitude of forces between well separated ions in solution. Solvating power is not determined by dielectric constant alone. Solvation is the specific interaction between solvent molecules and ions, and it

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2017; 3(1): 349-353

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(1): 349-353
www.allresearchjournal.com
Received: 19-11-2016
Accepted: 20-12-2016

R Kavitha
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

S Ananthalakshmi
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Correspondence
R Kavitha
PG and Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Effect of solvents on activation parameters for the kinetics of reaction between *p*-Toluene sulfonyl Chloride with α-hydroxy acids in the presence of pyridine

R Kavitha and S Ananthalakshmi

Abstract
The kinetics of the reaction between *p*-Toluene sulfonyl Chloride (Tosyl chloride – TsCl) with α-Hydroxy acids in the presence of Pyridine has been studied at 293, 303 and 313 K in protic and aprotic solvents. Variations in reaction rate as well as activation parameters have been interpreted on the basis of solvation and dielectric properties of the solvents. Thermodynamic parameters such as activation energy (Ea), enthalpy of activation ($\Delta H^{\ddagger}$), free energy of activation ($\Delta G^{\ddagger}$) and entropy of activation ($\Delta S^{\ddagger}$) have been evaluated from the rate data. The isokinetic relationship has been verified. Analysis of activation energy, enthalpy, entropy and free energy reveals that solvation of transition state is larger in polar solvents which restrict the bond formation process. All reactions have appreciable negative entropy of activation which strongly supports the bimolecular nucleophilic displacement mechanism of these reactions.

Keywords: Substitution kinetics, Isokinetic temperature, dielectric constant, activation parameters

1. Introduction
The nucleophilic substitution at a sulfur atom has been a subject of long standing interest of organic chemists. Arylsulfonyl halides are convenient model compounds for experimental investigations of different nucleophilic processes at sulfonyl sulfur centre [1-8]. The effect of solvents plays an important role in substitution kinetics. The effect of pure solvents and mixture of solvents in various compositions on nucleophilic substitution reactions were reported in the literature [9, 10]. In kinetic studies the dependence of rate constants on structure of the reacting molecule or the solvent effects are expressed in terms of activation parameters. The parameters used are activation energy (Ea), enthalpy of activation ($\Delta H^{\ddagger}$), free energy of activation ($\Delta G^{\ddagger}$) and entropy of activation ($\Delta S^{\ddagger}$). These values are used as convenient tools for mechanistic evaluation of these reactions [11].
Extensive investigations on rate of reactions of *p*-Toluenesulfonyl Chloride with Benzoic acid(s) [12], Phenol(s) [13] and α-Hydroxy acids [14] have been reported earlier. However, there is relatively little discussion and limited data on activation parameters of these reactions. Therefore, it was decided to determine the temperature dependence of the rates and activation parameters on the reaction of *p*-Toluene sulfonyl Chloride (TsCl) with α-Hydroxy acids in the presence of Pyridine in various solvents. This paper reports and discusses the activation parameters estimated from kinetic data.

2. Materials and methods
2.1 Materials
p-Toluenesulfonyl chloride (TsCl), Glycolic acid, Lactic acid, Mandelic acid, Pyridine and solvents used (Acetonitrile, Acetone, Dimethylformamide, Benzyl alcohol, propanol and Butanol) (Analytical grade) were purified before use by recrystallization or distillation until their physical constants (melting point/boiling point) agreed with the literature values [15,16].

2.2 Kinetic measurements
The themostated solutions (±0.1 °C) of *p*-Toluenesulfonyl chloride (10 ml, 0.05 mol dm^{-3}) and the mixture of Glycolic acid - Pyridine (10ml, 0.05 mol dm^{-3}) in acetonitrile were mixed. The progress of the reaction was followed by measuring the conductance of the reaction

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJASRM

International Journal of Advanced Scientific Research and Management, Volume 3 Issue 7, July 2018

www.ijasrm.com

ISSN 2455-6378

Regression analyses of log k_2 against various solvent parameters for the reaction of *p*-toluenesulfonyl Chloride with α-hydroxy acid(s) in the presence of pyridine

R. Kavitha[1] and S. Ananthalakshmi[2*]

[1]Ph. D. Research Scholar, PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli - 620 019, Tamil Nadu, India.

[2*]Associate Professor, PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli - 620 019, Tamil Nadu, India.

Abstract

Kinetics of the reaction of *p*-toluenesulfonyl Chloride (TsCl) with α-hydroxy acid(s) in the presence of pyridine under equimolar conditions in various solvents has been studied by conductometric method. The rate constants were obtained by least square method. Kinetic data shows that the reaction follows second order kinetics and first order with respect to each of the reactants. In order to understand the effect of solvent parameters on the reaction rate, the second order rate constants were subjected to simple and multiple regression analyses. Various solvent parameters at macroscopic and microscopic levels were used. The signs of the equation co-efficient show the contribution of each parameter on the reaction rate.

Keywords: *Substitution kinetics, Sulfonyl ester, Solvent effects, Microscopic and macroscopic properties, Regression analysis*

1. Introduction

Bimolecular nucleophilic substitution (S_N2) is important in chemical synthesis, especially for interchanging functional groups and for carbon – carbon bond formation (Vollhardt K.P.C & Shore N. E, 2007). It is one of the most widely studied reactions in physical organic chemistry (Sason S *et al*, 1992). Usually, solvent effects are superimposed onto the intrinsic reaction dynamics, which strongly affects the reactivity. So, solvent effects are mainly used to predict the rate constants in solvents and to understand the various influences that might affect reaction rates.

The kinetics of the reaction of phenacyl bromide with benzoate (Krishnapillay M *et al.*, 1983), phenoxyacetates (Krishnapillay M *et al.*, 1983), and cinnamates (Krishnapillay M & Balasubramanian G, 1987) have been reported in acetone and acetone – water medium containing various amount of water. Nallu *et al.* extensively studied the effect of binary aqueous – organic solvents on the reaction of phenacyl bromide with nitrobenzoic acid(s) in the presence of triethylamine (Nallu M *et al.*, 2004) Kinetic studies on the reactions of TsCl with *p*-substituted Benzoic acids in the presence of triethylamine in aprotic solvents have been extensively studied by Ananthalakshmi and Nallu (Ananthalakshmi S & Nallu M, 2008). Vembu *et al.* have studied solvent effect on the reaction of TsCl with para substituted phenols and triethylamine (Vembu *et al.*, 2013).

Though many discussions of solvent effects on reaction rates of nucleophilic substitution processes have been reported, systematic regression

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific Research in Biological Sciences
Vol.5, Issue 4, pp. 61-65, August (2018)

Research Paper

E-ISSN: 2347-7520

Tosyl ester(s) of α-hydroxy acid(s) – Synthesis and antimicrobial studies

R. Kavitha[1]*, S. Ananthalakshmi[2]*

[1,2]PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli – 620 019, Tamil Nadu, India.

** Corresponding Author: sdcananthalakshmichem@gmail.com, Tel.: +91 94433 09278*

Available online at: www.isroset.org

Accepted: 12/Aug/2018, Online: 30/Aug/ 2018

Abstract –Tosyl ester(s) of α-hydroxy acid(s) were prepared by treating the acid with *p*-toluenesulfonyl chloride (TsCl) in the presence of pyridine. The products were isolated, identified by TLC and characterized by IR, ^{1}H-NMR and ^{13}C-NMR spectral techniques. Anti microbial activity of the synthesized compounds were studied by Agar well diffusion method against two bacterial (*Escherichia Coli* and *Staphylococus Aureus*) and two fungal (*Candida albicans* and *Aspergillus Niger*) species using Ciprofloxacin against the bacterial strains, Nystatin against *Candida albicans* and Amphotericin against *Aspergillus niger* as standard antibiotics. The results infer that the tosyl ester(s) of α- hydroxy acid(s) are potentially active against bacterial and fungal strains.

Keywords – *Tosyl esters, α-hydroxy acids, Sulfonyl sulfur, TLC technique, Antimicrobial activity, Agar well diffusion method*

I. INTRODUCTION

Tosyl esters are sulfonyl esters synthesized by treating *p*-toluenesulfonyl chloride (known as tosyl chloride and abbreviated as TsCl) with phenols / aliphatic alcohols or carboxylic acids in the presence of base. Formation of tosyl ester is a nucleophilic substitution reaction in which the oxygen of the alcohol/acid displaces the chloride ion from the tosyl chloride. Base catalyzes the reaction and neutralizes the HCl that formed in the reaction [1, 2].

II. RELATED WORK

Organo Sulfur compounds find a wide range of chemical, medicinal, biomedical and industrial applications due to their low cost and useful properties such as solubility in aqueous and organic solvents, metal complexing ability, biological compatibility and ease of chemical modification [3-5]. The various methods of preparation of tosyl esters from aliphatic alcohols, aromatic acids, sulfonic acids and phenols have been reported [6-11].

Sulfur containing drugs such as sulfonamides, sulfonyl ureas, 2-thio uracil, 6-mercapto purines etc., have extensive therapeutic usage. Some sulfur containing agrochemicals have useful biological activity. They used as insecticides, herbicides, fungicides and agaricides [12]. Sulfonyl medicines and their antibiotics are commonly used for the treatment of infections occurred by microbes [13]. Various metal complexes of indole acetic acid [14], tosyl esters of indole aceticacid and naphthalene aceticacid [15] were studied for their antimicrobial activity.

With the development of new applications in medical and other applied areas, there is a growing demand for improved and versatile methods for the synthesis and characterization of sulfonyl derivatives. Hence, we synthesized few tosyl ester(s) of α- hydroxy acid(s), characterized by spectral techniques and studied their microbiological activities against pathogenic microbes.

III. METHODOLOGY

Materials

All the chemicals such as *p*- toluenesulfonyl chloride, glycolic acid, lactic acid, mandelic acid, pyridine and acetonitrile were purified before use by recrystallization or distillation until their physical constants (melting/boiling) agreed well with the literature values [16,17]. FT-IR (KBr) spectra were recorded on Perkin Elmer RXI spectrophotometer and H^1 & C^{13} –NMR spectra were recorded on a Bruker AMX 400 MHz & 200 MHz NMR spectrometer respectively using TMS as an internal reference.

Synthesis of tosyl esters

***p*-toluenesulfonyl glycolate (PTSG)**

Equal volumes of equimolar solutions of *p*-toluenesulfonyl chloride (25ml, 0.05 mol dm^{-3}) and mixture of Glycolic acid – Pyridine (25ml, 0.05 mol dm^{-3}) in acetonitrile were mixed

© 2018, IJSRBS All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Available online at www.pelagiaresearchlibrary.com

Pelagia Research Library

Der Chemica Sinica, 2014, 5(2):62-70

Pelagia Research Library
ISSN: 0976-8505
CODEN (USA) CSHA5

Effect of binary aqueous-organic solvents on the reaction of *p*-toluene sulfonyl chloride with benzoic acid(s) in the presence of triethyl amine

Subbiah Ananthalakshmi* and Rathinam Kavitha

Department of Chemistry, Urumu Dhanalakshmi College, Tamil Nadu, Tiruchirapalli, India

ABSTRACT

Second order rate constants (k_2) for the reaction of p-toluenesulfonyl chloride with p-substituted benzoic acid(s) [X-C_6H_4COOH where X= 4-H, 4-CH_3 and 4-NO_2] in the presence of triethylamine in binary aqueous-Acetonitrile Acetone mixed solvent have been determined by conductometric method at 25-40 °C. It was found that the rate decreased with increase of water content in Acetonitrile-water binary system. In acetone-water binary system the rate increases with increase in water content to about 10% reaches a maximum and then decreases. The change in rate with change in concentration of acetone may be explained by solvation behaviour of acetone. Activation parameter (Ea, $\Delta H^{\ddagger}$, $\Delta S^{\ddagger}$, $\Delta G^{\ddagger}$) are evaluated from the rate data by the usual methods. Influence of solvent properties at macroscopic and macroscopic level on the rate is subjected to simple and multiple linear correlations. The log k_2 values of binary aqueous-acetone system are correlated with Grunwald-Winstein Y values. The 'm' value is found to be very low which indicates that the bond breaking and bond making would proceed to the same extent. This is the characteristic property of S_N2 reaction.

Keywords: Kinetics, binary solvent mixture, solvation, correlation, Grunwald-Winstein, solvatochromatic parameters.

INTRODUCTION

Kinetics and reaction mechanism for different reaction using various techniques has been a topic of interest for many researchers. The solvent effects play a key role in many chemical and physical processes in solutions. The study of solute-solvent interactions in binary mixtures is more complex than in pure solvents, because the solute can interact to different extent with the components of the mixture. The influence of solvents on chemical reaction in solution has been observed over a number of years by authors and some of the effects have been noted [1]. Carboxylate anions are found to be potential nucleophiles in substitution reactions. Raghavan and Kalavathy have studied the kinetics of reaction of ethyl bromoacetate with substituted phenoxy acetate ions in 90% aqueous acetone (v/v) [2]. The reaction is found to follow second order kinetics in total and first order with respect to each reactant. Second order rate constants for the reaction between benzyl chloride / phenacyl chloride and N, N-dimethylaniline have been evaluated conductometrically by Nallu *et al*. [3]. The marked effect of acetone-water solvent mixtures on the rate was found from correlation technique with log k_2 vs. Grunwald-Winstein (Y) and Kosower (Z) of solvent polarity parameters. Ranga Reddy *et al*. have determined the second order rate constants for the reaction of benzyl bromide and diphenylamine in methanol at 25-40 °C [4] and also they studied the effect of protic and dipolar aprotic solvents on the reaction of benzyl bromide and diphenylamine [5]. Effect of solvents on the reaction of Dansyl and Bansyl chlorides with substituted pyridines in methanol-acetonitrile binary mixtures at 0 °C has been studied by Sung *et al*., [6].

The second order rate constants of the reaction of *p*-toluenesulfonyl chloride with *p*-substituted benzoic acids in the presence of triethylamine in acetonitrile/acetone under equimolar and *pseudo*-first order conditions have been deteremined by conductometric method using Guggenheim principle at 25, 30, 35, and 40 °C by Ananthalakshmi

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Scientific and Research Publications, Volume 4, Issue 5, May 2014
ISSN 2250-3153

Synthesis, Characterization and Antimicrobial Studies of Tosyl Esters of Carboxylic Acid

S. Ananthalakshmi, R. Kavitha, A. Kiruthika, S. Kalaivani

Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

Abstract- Tosyl esters of Indole acetic acid and Naphthalene acetic acid were prepared by treating the acids with *p*-toluenesulfonyl chloride in the presence of a strong base triethylamine. The synthesized compounds were identified by TLC technique. IR and ^{1}H-NMR spectral measurements were carried out to characterize and elucidate the structure of the synthesized compounds. Anti microbial activity on the synthesized compounds were studied by Agar well diffusion method. The result shows that the Tosyl esters are potentially active against Bacterial and Fungal strains.

Index Terms- Tosyl esters, Sulfonyl sulfur, TLC technique, Antimicrobial activity, Agar well diffusion method

I. INTRODUCTION

Esterification of carboxylic acids with alcohols and phenols are of considerable interest. The preparation of esters from their corresponding carboxylic acids is an important and well known transformation in organic synthesis. *p*-Toluenesulfonyl chloride (TsCl) is most widely used as a tosylating agent. It is more reactive than tosyl anhydride and *p*-toluene sulfonic acid. For the preparation of tosylates, generally TsCl is used in the presence of base such as pyridine or triethylamine[1]. The various methods of preparation of tosyl esters of phenols and aliphatic alcohols have been studied by many researchers [2-4]. Nucleophilic substitution reactions of benzenesulfionyl halides [5, 6], and substituted benzyl halides [7-9] has been extensively studied. In these reactions halides are displaced by nucleophile which occurs at sulfonyl sulfur.

The organo sulfur compounds received much attention of researchers due their wide range of application in biological and chemical applications. Sulfur containing drugs such as sulfonamides, sulfonyl ureas, 2- thio uracil, 6- mercapto purines etc., have extensive therapeutic usage. Some sulfur containing agrochemicals have useful biological activity. They used as insecticides, herbicides, fungicides and agaricides. Sulfonamide derivatives of azo dyes have high light stability, water solubility and fixation to fiber [10-12].

In view of the above, we report here the synthesis and characterization of tosyl esters of Indole acetic acid and Naphthalene acetic acid. Further, the synthesized compounds were subjected to antimicrobial studies.

II. EXPERIMENTAL SECTION

Materials and methods

Materials

All the chemicals such as *p*-toluenesulfonyl chloride, Indole acetic acid, Naphthalene acetic acid, triethylamine and acetonitrile were purified before use by recrystallization or distillation until their physical constants (melting/boiling) agreed well with the literature values [13,14]. FT-IR (KBr) spectra were recorded on Perkin Elmer RXI spectrophotometer and proton NMR spectra were recorded on a Bruker AMX 400 MHz NMR spectrometer using TMS as internal reference.

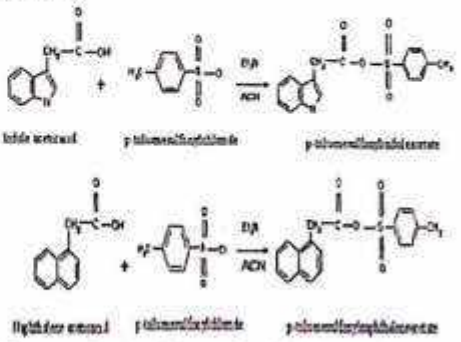
Experimental

Synthesis of compounds

Equal volumes of equimolar solution of *p*-toluenesulphonyl chloride (0.05 mol dm^{-3}, 25ml) and the mixture of Indoleaceticacid-Triethylamine (0.05 mol dm^{-3}, 25ml) in Acetonitrile were mixed thoroughly with constant stirring and kept overnight at about 30 °C. The solid product obtained was treated with ether. The upper and bottom layers were collected separately and dried over anhydrous Na_2SO_4. A solid product obtained from top layer was seperated. The bottom layer was completely evaporated in vacuum to get residue. TLC tests on both products using a mixture of methanol-ether as eluent, showed a single spot. The solid product obtained from the top layer (yield 54%) was identified as *p*-toluenesulfonylindoleacetate and the solid product obtained from the bottom layer (yield 40%) was identified as triethylammonium chloride from FT-IR (KBr) and ^{1}H ($CDCl_3$) spectral data. The schematic route of synthesis of tosyl esters of acids were given in Scheme I.

The same procedure was adopted for the synthesis of *p*-toluenesulfonylnapthaleneacetate (yield 60%)

Scheme 1



Characterization of the synthesized compounds

Compound I:

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol 04, Issue 08, Nov 2018

Characterisation Studies of Corbyn's Cove Beach Soil in Andamann Nicobar Islands

Dr. S. Ananthalakshmi, Research Advisor,

A. Abilandeswari, Research Scholar,

S. Kalaivani, Research Scholar,

R. Kavitha, Research Scholar,

Department of Chemistry, Urumu Dhanalakshmi College, Tiruchirappalli-19, Tamilnadu, India.

drlakshmichem@gmail.com, kalaipriya01@gmail.com

Abstract - The qualitative identification of minerals in coastal soil samples of a Corbyn's Cove beach in Andamann and Nicobar Islands has been reported. The elemental composition and morphology of atmospheric particles were investigated using SEM-EDAX system. The EDAX spectrum shows the presence of dominant elements such as chloride, oxygen, sodium and also other minerals such as silica, alumina, magnesium, calcium, titanium, manganese are present in trace amounts. SEM picture of coastal soil sample was taken at 20 kv with different magnification and it depicts platy flakes and spongy structure of the soil. The submicron sized particles seem to have a rough coarse and rough morphology. Random distribution of shapes like square, and rhombohedra had been observed.

Keywords — Andamann and Nicobar Islands, Corbyn's Cove beach, Coastal soil, EDAX, Minerals, SEM

I. INTRODUCTION

Soil is a mixture of morganic and organic solids, air and water. Soil chemistry involves the chemical reactions and processes between these components and particularly focuses on investigating the fate of contaminants and nutrients within soils (Nyle et al 1996) The arrangement and organization of primary and secondary particles in a soil mass is known as soil structure. Soil structure controls the amount of water and air present in soil. Plant roots and germinating seeds require sufficient air and oxygen for respiration. Bacterial activities also depend upon the supply of water and air in the soil. Soil structure influences rather indirectly by formation of an array of pores of various shapes and sizes. These pores are controlling factors governing water, air and temperature in soil.

Geologically, two sedimentary series are known in Andamanns, the Port Blair and the archipelago in the Andamanns, besides altered igneous intrusions of volcanic rocks. The Port Blair series consists principally of non-calcareous grey sand stone and unbedded shales, with occasional nests of poor coal, conglomerates and pale grey lime stones. The archipelago series consists of soft lime stones formed of coal and shell sand, soft calcareous sand stones and white clay with occasional conglomerates. Volcanic fragmentary rocks apparently younger appear in the Port Blair series. A turbulent ten degree channel separates Andamanns from the Nicobars which are spread over 300 kilometers and comprise of 19 islands out of which 7 are uninhabited, the Nicobars are contrastingly different from the Andamanns. In fact, these islands are the most inaccessible from the mainland India. Generally, the soil structure prevalent in the villages of the Nicobar group of islands is porous coral.

The mineral analysis will give a prompt area of research and give an important tool in economic scale also. In this Present study, it is decided to carry out the qualitative determination of the Macro and Micro Constituent minerals present in the Coastal soil samples. So, the soil sample is collected from Corbyn's Cove beach in Andamann Nicobar Islands and taken for our study of interest. There are number of methods are used to identify the minerals by the conventional techniques such as Energy Dispersed X-ray Spectroscopy (EDAX) and Scanning Electron Microscopy (SEM).

EDAX is an X-ray Spectroscopic method for determining elemental compositions. It is an elemental analysis and using EDAX the presence of elements can be identified. The EDAX, popularly known as Energy Dispersive spectroscopy technique, is used for identification of different elements present in the sample. Therefore, this can be used for studying the composition of the sample.

We can analyze the chemical components in a material under SEM. It is also known as SEM analysis or SEM microscopy, is used very effectively in microanalysis and failure analysis of solid inorganic materials. Electron

 DOI : 10.18231/2454-9150.2018.1075 © 2018, IJREAM All Rights Reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Available online at www.joac.info

ISSN: 2278-1862

Journal of Applicable Chemistry

2015, 4 (6): 1811-1820

(International Peer Reviewed Journal)

Studies on The Removal of Hexavalent Chromium From Synthetic Waste Water By Using Activated Biocarbon

C. Pragathiswaran[*1], P. Sivanesan[2] and N. Ananthakrishnan[3]

1. Department of Chemistry, Periyar, E.V.R.College, Trichy-23, Tamil Nadu, INDIA
2. Tamilnadu newsprint and papers limited, Kagithapuram, Karur-63 9136, Tamil Nadu, INDIA
3. Saranathan college of Engineering Panjappur, Trichy, Tamilnadu, INDIA

Email: pragathis_waran@yahoo.co.in

Accepted on 21st November 2015

ABSTRACT

The adsorption of chromium ions from an aqueous solution with galinsoga parviflora (GS) was studied in a batch set up as a function of contact time, pH, Chromium ion concentration and adsorbent dosage. The Langmuir and Freundlich adsorption models were applied to describe the isotherms and isotherm constants. The adsorption data gave a right fit with Langmuir isotherms with maximum adsorption capacity of 97 % of chromium (VI) ion. The outcomes depict the full potentiality of using galinsoga parviflora as an adsorbent for removal of Cr (VI) from aqueous solutions.

Keywords: galinsoga parviflora(GS), adsorbent, zinc chloride, contact time, metal adsorption, adsorption isotherm.

INTRODUCTION

Chromium as one of the major pollutants of the environment is available in nature as an odorless, hard metallic element. It is the seventh most abundant elements on the earth. Chromium exists as stable hexavalent and trivalent forms. The hexavalent chromium is more toxic than trivalent chromium and is often present in waste water as CrO_4^{2-} and $Cr2O_7^{2-}$.This is of serious environmental concern as Cr (VI) persists indefinitely in the environment complicating its removal. The hexavalent chromium has been considered more hazardous to public health due to its mutagenic and carcinogenic properties. Chromium can be released to the environment through a large number of industrial operations, including metal finishing industry, iron and steel industries and inorganic chemicals production (Gao et al., 2007). The adsorption technique is one of the preferred methods for removal of heavy metals because of its efficiency and low cost. The adsorption, with the selection of suitable adsorbents, can be an effective technique for the removal of heavy metals from waste water [1] - [4], [6], [8]. Some of suggested adsorbents are mesquite tree [9], biosorbents [5], [7], [10], agricultural biomass [11].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRPC 2016, 6(1), 57-61 Pragathiswaran et al. ISSN: 2231–2781

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

ADSORPTION OF MALACHITE GREEN DYE ONTO ACTIVATED CARBON OBTAINED FROM THE GLORIOSA SUPERBA STEM

C. Pragathiswaran[1*], N. Anantha Krishnan[2], B. Mahin Abbubakkar[1], P.Govindhan[1] and KA.Syed Abuthahir[3]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamilnadu, India.
[2]Department of chemistry, Saranathan College of Engineering Panjappur, Trichy, Tamilnadu, India.
[3]Department of Chemistry, Dr.Zakir Hussain College, Iliyangudi -630 702, Tamil Nadu, India.

ABSTRACT

The present work deals with adsorption of Malachite Green (MG) dyes carried out in the presence of Activated Gloriosa Superba stem Carbon (AGSC). Various parameters such like the effect of initial concentration, contact time have been studied. The result reveals when the amount of adsorbent increases, the percentage removal of dye also increases. The applicability of Freundlich and Langmuir adsorption isotherms has also been tested.

Keywords: Adsorption, Malachite Green (MG), Activated Gloriosa Superba stem Carbon (AGSC).

1. INTRODUCTION

Dyes are commonly used in different industries like paper, textile, plastic, food, cosmetics and coloring industries. These industries commonly use synthetic dyestuff as a colorant. $7x10^5$ tones of dye stuff are being produced annually [1,2]. The discharge of dye containing waste water poured into the environment contaminated surface water and ground water. The dyes in the waste water even at a very low concentration affect the aquatic life and human health by polluting the environment. The toxicity and carcinogenicity have lead to exploration of possible detoxicants [3, 4]. The present study tries to evaluate the efficiency of an activated gloriosa superba adsorbent in the removal of malachite green dyes from dye solution.

2. Experimental methods

2.1 Adsorbent

Gloriosa superba stem is collected from the nearby Trichy district has carbonized with concentrated sulphuric acid and washed with water and activated around 1000°C in a muffle furnace for 6 hrs then it has been taken out and stored in a vacuum desiccators.

2.2 Adsorbate

The stock solution of malachite green concentration 1000 mg/L is prepared by dissolving 1 g of malachite green in 1000 ml of double distilled water. Different concentration of dye solutions which

3.3.2. Number of research papers per teacher in the Journals notified on UGC

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

KINETICS AND THERMODYNAMICS STUDY OF MALACHITE GREEN DYE ONTO ACTIVATED CARBON OBTAINED FROM THE GLORIOSA SUPERBA STEM

C. Pragathiswaran[1*], N. Anantha Krishnan[2], B. Mahin Abbubakkar[1], P. Govindhan[1] and KA. Syed Abuthahir[3]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamilnadu, India.

[2]Department of chemistry,Saranathan College of Engineering Panjappur, Trichy, Tamilnadu, India.

[3]Department of Chemistry, Dr. ZakirHussain College, Ilyangudi-630 702, Tamil Nadu, India.

ABSTRACT

The present work deals with adsorption of Malachite Green (MG) dyes carried out in the presence of Activated GloriosaSuperba stem Carbon (AGSC). Various parameters such like the dose of adsorbent, temperature and pH have been studied. The result reveals when the amount of adsorbent increases, the percentage removal of dye also increases. The applicability of pseudo first order and pseudo second order studies were also studied. The thermodynamics parameter such as ΔG^0, ΔH^0 and $\Delta S^0$is calculated. The adsorption capacities of Activated GloriosaSuperba stem Carbon (AGSC) is being calculated by using batch process.

Keywords: Adsorption, Thermodynamics, Malachite Green (MG).

1. INTRODUCTION

Dyes can causes allergic, dermatitis, skin irritation, cancer, mutation, etc. In general dyes are unsuccessfully biodegradable and some of the dyes produce aromatic amine which is highly carcinogenic in nature[1,2]. Many researchers have studied the feasibility of using inexpensive alternative materials like peral millet husk, date pits, saw dust, buffing dust of leather industries, coir pith, crude oil, residue, tropical grass, olive stone, almond shell, pine bark, wool waste, coconut shell etc[3,4]. The present study tries to evaluate the efficiency of an activated gloriosasuperba adsorbent in the removal of malachite green dyes from dye solution.

2. Experimental methods

2.1 Adsorbent

Gloriosasuperbastemis collected from the nearby Trichy district has carbonized with concentrated sulphuricacid and washed with water and activated around 1000°C in a muffle furnace for 6 hrs then it has been taken out and stored in a vacuum desiccators.

2.2 Adsorbate

The stock solution of malachite green concentration 1000 mg/L is prepared by dissolving 1 g of malachite green in 1000 ml of double distilled water. Different concentration of dye solutions which begin from the range of (50 to 250 mg/L) have been prepared from the stock solution by appropriate dilution.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRPC 2016, 6(1), 95-103 Pragathiswaran et al. ISSN: 2231–2781

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

ADSORPTION OF METHYLENE BLUE DYE USING ACTIVATED CARBON FROM THE GLORIOSA SUPERBA STEM

C. Pragathiswaran[1*], N. Anantha Krishnan[2], B. Mahin Abbubakkar[1], P. Govindhan[1] and KA. Syed Abuthahir[3]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamilnadu, India.
[2]Department of chemistry, Saranathan College of Engineering Panjappur, Trichy, Tamilnadu, India.
[3]Department of Chemistry, Dr.Zakir Hussain College, Ilyangudi-630 702, Tamil Nadu, India.

ABSTRACT

The analysis of this work was to research the removal of methylene blue dyes from solution by using Acid Gloriosa Superba stem Carbon (AGSC). Generally, dyes are organic compounds used as colouring products in chemical, textile, paper, printing, leather, plastics and varied food industries. The requirement for the treatment of dye contaminated waste water passed out from the trade. During this study, acid gloriosa superba stem carbon was studied for its potential use as associate degree adsorbent for removal of a cationic dye methylene blue. The assorted factors poignant surface assimilation, like initial dye concentration, contact time, adsorbent dose and result of temperature were evaluated. The equilibrium of surface assimilation was shapely by the Langmuir and Freundlich isotherm models. The scope of this work suggests the AGSC is also utilized as a low cost adsorbent for methylene blue dye removal from aqueous solution.

Keywords: Acid Gloriosa Superba stems Carbon (AGSC), Methylene blue, Adsorption isotherm.

1. INTRODUCTION

Dyes square measure wide used, usually within the textiles, plastics, paper, leather, food business to paint product. In method of laundry and finishing colored product, waste water contaminated with dyes is generated. The contaminated waste waters square measure dangerous, which may be a nice threat to atmosphere[1-3]. Dye contamination in waste material causes issues in numerous ways: the presence of dyes in water, even in terribly low quantities, is extremely visible and undesirable; color interferes with penetration of daylight into waters; retards photosynthesis; inhibits the expansion of aquatic aggregation and interferes with gas solubility in water bodies. These materials square measure the sophisticated organic compounds and those they resist against light, laundry and microorganism invasions[4-7]. The requirement for the treatment of dye contaminated waste water arose from the environmental impact[8]. Activated minerals square measure one amongst the foremost widespread adsorbents used for the removal of deadly substances from waste water. This might be associated with their extended extent[9]. The key use of AGSC is in resolution purification and for the removal of color, odors and alternative unpleasant impurities from liquids, water supplies and vegetable and animal oils.

In recent years it's been more and more used for the bar of environmental pollution and environmental condition laws have augmented the sales of affordable activated minerals for management the of air and pollution. Varied techniques like precipitation, natural process, chemical reaction and surface assimilation are used for the removal of venomous waste product from, wastewater. Methylene Blue (MB) is chosen as a model compound for evaluating the potential of AGSC to get rid of dye from solution.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRPC 2016, 6(1), 104-109 Pragathiswaran et al. ISSN: 2231–2781

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

ADSORPTIVE REMOVAL OF DYE FROM AQUEOUS SOLUTION USING ACTIVATED CARBON FROM THE GLORIOSASUPERBA STEM

C. Pragathiswaran[1*], N. Anantha Krishnan[2], B. Mahin Abbubakkar[1], P. Govindhan[1] and KA.Syed Abuthahir[3]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamilnadu, India.

[2]Department of chemistry,Saranathan College of Engineering Panjappur, Trichy, Tamilnadu, India.

[3]Department of Chemistry, Dr.ZakirHussain College, Ilyangudi, -630 702, Tamil Nadu, India.

ABSTRACT

The preparation of activated carbon using batch adsorption methods. The requirement for the treatment of dye contaminated waste water passed out from the trade. During this study, acid gloriosasuperba stem (AGSC), carbon was studied for its potential use as associate degree adsorbent for removal of a cationic dye methylene blue. The assorted factors poignant surface assimilation, like initial dye concentration, contact time, adsorbent dose and result of temperature, were evaluated.

Keywords: Acid GloriosaSuperba stems Carbon (AGSC), Methylene blue, Adsorption isotherm.

1. INTRODUCTION

Dyestuff in wastewater from various industries, such as textiles, printing, pulp mills, leather, food, dyestuffs, and plastics, is stable and resistant to biodegradation because of its complex aromatic molecular structure.[1,2] Undoubtedly, the removal of dyestuff from waste effluents is of environmental importance. So far, various technologies including biological treatment[3] coagulation/ flocculation[4], ozone treatment[5], chemical oxidation[6], membrane filtration[7], ion exchange, photocatalysis and adsorption have been developed for the treatment of dye-containing effluents. Among them, adsorption is a reliable alternative due to its simplicity and high efficiency as well as the availability of a wide range of adsorbents (e.g., activated carbon, clay, biomass, polymer, zeolite, nanomaterials, etc.). In particular, activated carbon offers an attractive option for the efficient removal of various pollutants from waters because of its high surface area and porous structure. Unfortunately, the utilization of activated carbon on a large scale is limited by process engineering difficulties, such as its dispersion problem and regeneration cost.

The key use of AGSC is in resolution purification and for the removal of color, odors and alternative unpleasant impurities from liquids, water supplies and vegetable and animal oils.In recent years it's been more and more used for the bar of environmental pollution and environmental condition laws have augmented the sales of affordable activated minerals for management the of air and pollution.[8,9] Varied techniques like precipitation, natural process, chemical reaction and surface assimilation are used for the removal of venomous waste product from, wastewater. Methylene Blue (MB) is chosen as a model compound for evaluating the potential of AGSC to get rid of dye from solution.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRPC 2016, 6(1), 162-168 Pragathiswaran et al. ISSN: 2231–2781

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

ISOTHERM STUDIES ONADSORPTION OF MALACHITE GREEN ON POWDERED ACTIVATED *EUPATORIUM ODORATUM* CARBON

C. Pragathiswaran[1]*, B. Mahin Abbubakkar[1], N. Anantha Krishnan[2], P. Govindhan[1] and C. Usharani[1]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamil Nadu, India.

[2]Department of Chemistry,Saranathan College of Engineering, Trichy, Tamil Nadu, India.

ABSTRACT

We studied the adsorption isotherm characteristics of aqueous Malachite Green dye solution – as model dye solution – by activated carbon prepared from the leaves of *Eupatorium Odoratum*plant. In the optimum pH range of 5 to 6, the adsorption reached equilibrium after 60 minutes. The effect of initial concentration and adsorbent dosage on the adsorption process were studied and reported. Experimental data were analysed by Freundlich, Langmuir and Temkin isotherms.

Keywords: Eupatorium Odoratum, effect of pH, C_i adsorbent dosage, Adsorption isotherms.

1. INTRODUCTION

Dyes are compounds that can fix themselves onto the surface of various materials including fabrics. They have become one of the main sources of water pollution as a result of rapid development of textile industries. The release of colorant effluent into water bodies has been a major concern on the human health as well as marine lives[1,2].

There are various methods to remove dyes from industrial effluents which include chemical oxidation, froth floatation, coagulation, reverse osmosis, activated sludge, ozonation electro dialysis etc., The high cost and ineffectiveness to remove trace quantity of pollutants causes the conventional methods become unfavourable to be applied at a large scale[4].

Adsorption technique offer the best potential for overall treatment and it could be expected to be promising for a wide range of compounds[3]. It is a reliable alternative due to its simplicity and high efficiency as well as the availability of a wide range of adsorbents for e.g., activated carbon, clay, biomass, polymer, zeolite, nanomaterials etc. In particular, activated carbon offers an attractive option for the efficient removal of various pollutants from waters because of its high surface area and porous structure[11]. The most commonly used adsorbent is commercial coal based activated carbon. But it is limited to use because of its high price and high operation and regeneration cost. This leads to search the new, cheap and easily available and resource of carbon as a feedstock for activated carbon. Many cheap and easily available agricultural wastes and plant based materials have been used as precursors for the preparation of activated carbon to remove dyes and metals from waste waters[5,6].

In this study, the leaves of *Eupatorium Odoratum*, (common name: Christmas bush), which is abundant and cheap plant was used as precursor for the preparation of activated carbon. The plant belongs to Astereceae family and it is a shrub plant and it grows mostly in every part of Tamilnadu, India.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IJRPC 2016, 6(1), 169-176 Pragathiswaran et al. ISSN: 2231–2781

INTERNATIONAL JOURNAL OF RESEARCH IN PHARMACY AND CHEMISTRY

Available online at www.ijrpc.com

Research Article

ADSORPTION OF MALACHITE GREEN BY ACTIVATED *EUPATORIUM ODORATUM* CARBON: KINETIC AND THERMODYNAMIC STUDIES

C. Pragathiswaran[1]*, B. Mahin Abbubakkar[1], N. Anantha Krishnan[2], P. Govindhan[1] and C.Usharani[1]

[1]Department of Chemistry, Periyar E.V.R College (Autonomous), Trichy-23 Tamil Nadu, India.

[2]Department of Chemistry,Saranathan College of Engineering, Trichy, Tamil Nadu, India.

ABSTRACT

Kinetics and thermodynamic studies were carried out on the adsorption of aqueous Malachite Green dye solution by activated carbon prepared from the leaves of *Eupatorium Odoratum*plant. In the optimum pH range of 5 to 6, the adsorption reached equilibrium after 60 minutes. Adsorption rate constants were determined by pseudo first order, pseudo second order kinetic studies and intra particle diffusion studies. Thermodynamic parameters such as ΔG,ΔH and ΔS were calculated. The studies indicate that the activated carbon prepared from *Eupatorium Odoratum* is a suitable adsorbent for the adsorption of dyes like malachite green from aqueous solutions.

Keywords: Eupatorium Odoratum, Kinetics, Thermodynamics.

1. INTRODUCTION

Malachite green is a basic and cationic dye. It has been widely used for dyeing leather, silk, wool etc. and as in distilleries. It is also used as fungicide and as antiseptic to control fish parasites It is also toxic to microorganisms. But it has been found showing carcinogenic, genotoxic, mutagenic and teratogenic properties due to the presence of nitrogen. It also retards photosynthetic activity, inhibits the growth of aquatic biota by reducing the sunlight penetration, decreases gas solubility and consumes DO[1,2]. Due to its inert properties, it is difficult to biodegrade or to remove malachite green from aqueous solutions[3]. Adsorption technique is one of the most effective processes of advanced waste water treatment and it could be expected to be promising for a wide range of compounds, than any of the other processes[2]. In the present work, the leaves of Eupatorium Odoratum (common name: Christmas bush), which is abundant and cheap plant was used to prepare of activated carbon. The plant belongs to Asteraceae family and it is a shrub plant and it grows mostly in every part of Tamilnadu, India.

2. EXPERIMENTAL

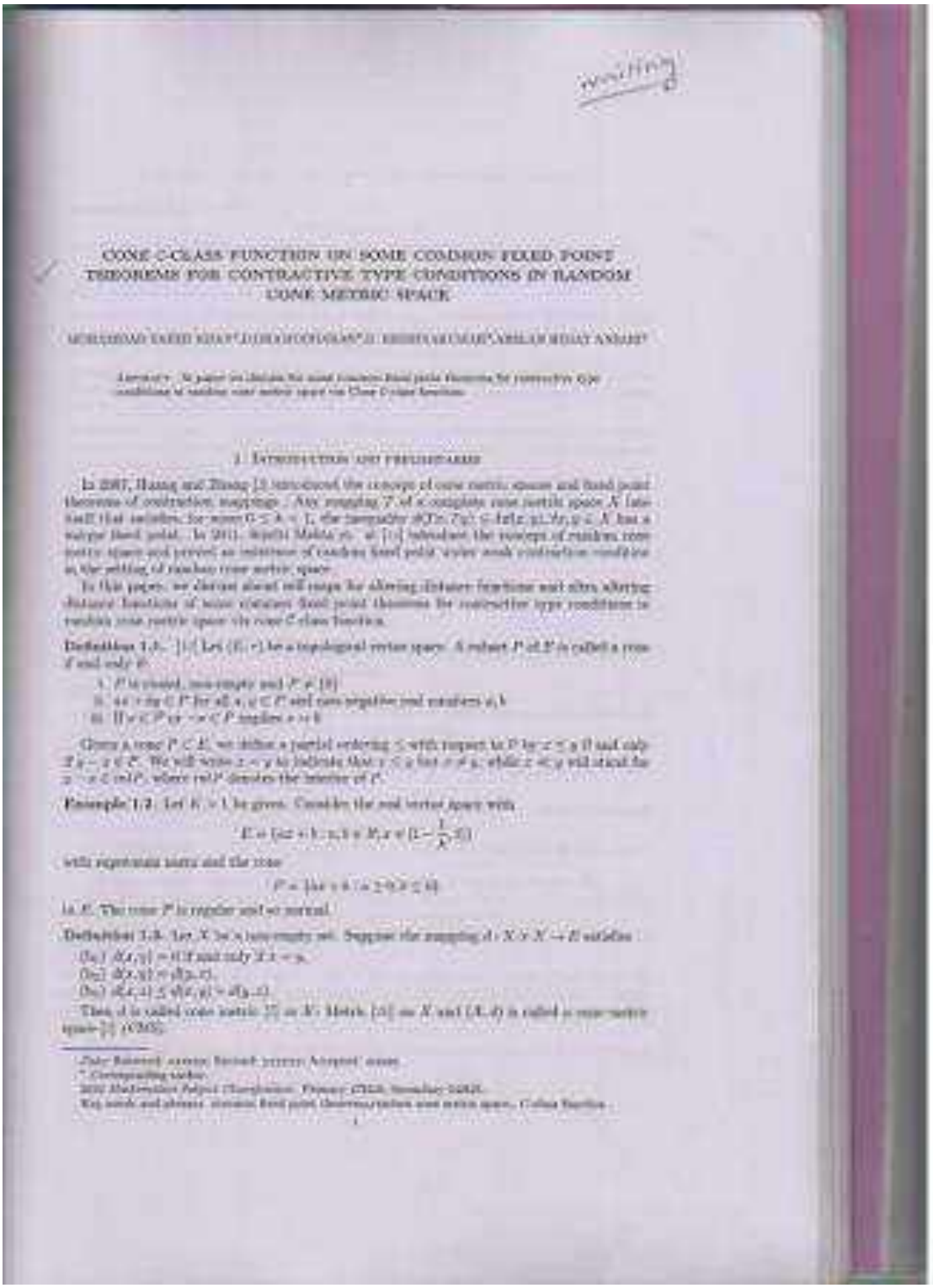
2.1. MATERIALS AND METHODS

2.1.1. Preparation of the activated carbon

In the present study, Eupatorium odoratum leaves were washed thoroughly bydouble distilled water to remove the dust and other impurities, dried in shade, then in hot air oven at 60°C, made into fine powder and used as precursor. The activated carbon was prepared by chemical activation method using conc. H_2SO_4. In this process, the dried leaves were impregnated with conc. H_2SO_4 (1:1) for 24 hours, filtered, washed repeatedly with deionized water and then heated at 500°C for 5 hours. After activation, the carbon was sieved for uniform particle size and used for adsorption[4].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Mathematics



CONE C-CLASS FUNCTION ON SOME COMMON FIXED POINT THEOREMS FOR CONTRACTIVE TYPE CONDITIONS IN RANDOM CONE METRIC SPACE

1. Introduction and preliminaries

In 2007, Huang and Zhang [3] introduced the concept of cone metric spaces and fixed point theorems of contraction mappings. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \le k < 1$, the inequality $d(Tx, Ty) \le k d(x, y), \forall x, y \in X$ has a unique fixed point. In 2011, Arshad Mukheimer et al. [1] introduced the concept of random cone metric spaces and proved an existence of random fixed point theorem under weak contractive conditions in the setting of random cone metric space.

In this paper, we discuss about still more for allowing distance functions and also altering distance functions of some common fixed point theorems for contractive type conditions in random cone metric space via cone C-class function.

Definition 1.1. [1] Let (E, τ) be a topological vector space. A subset P of E is called a cone if and only if:

i. P is closed, non-empty and $P \neq \{0\}$;
ii. $ax + by \in P$ for all $x, y \in P$ and non-negative real numbers a, b;
iii. $\{0\} \cap P = \{0\}$.

Given a cone $P \subset E$, we define a partial ordering $\le$ with respect to P by $x \le y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \le y$ but $x \neq y$, while $x \ll y$ will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P.

Example 1.2. Let $k > 1$ be given. Consider the real vector space with

$$E = \{ax + by : x, y \in R, x \in [1 - \frac{1}{k}, 1]\}$$

with supremum norm and the cone

$$P = \{ax + by : x \ge 0, y \ge 0\}$$

in E. The cone P is regular and so normal.

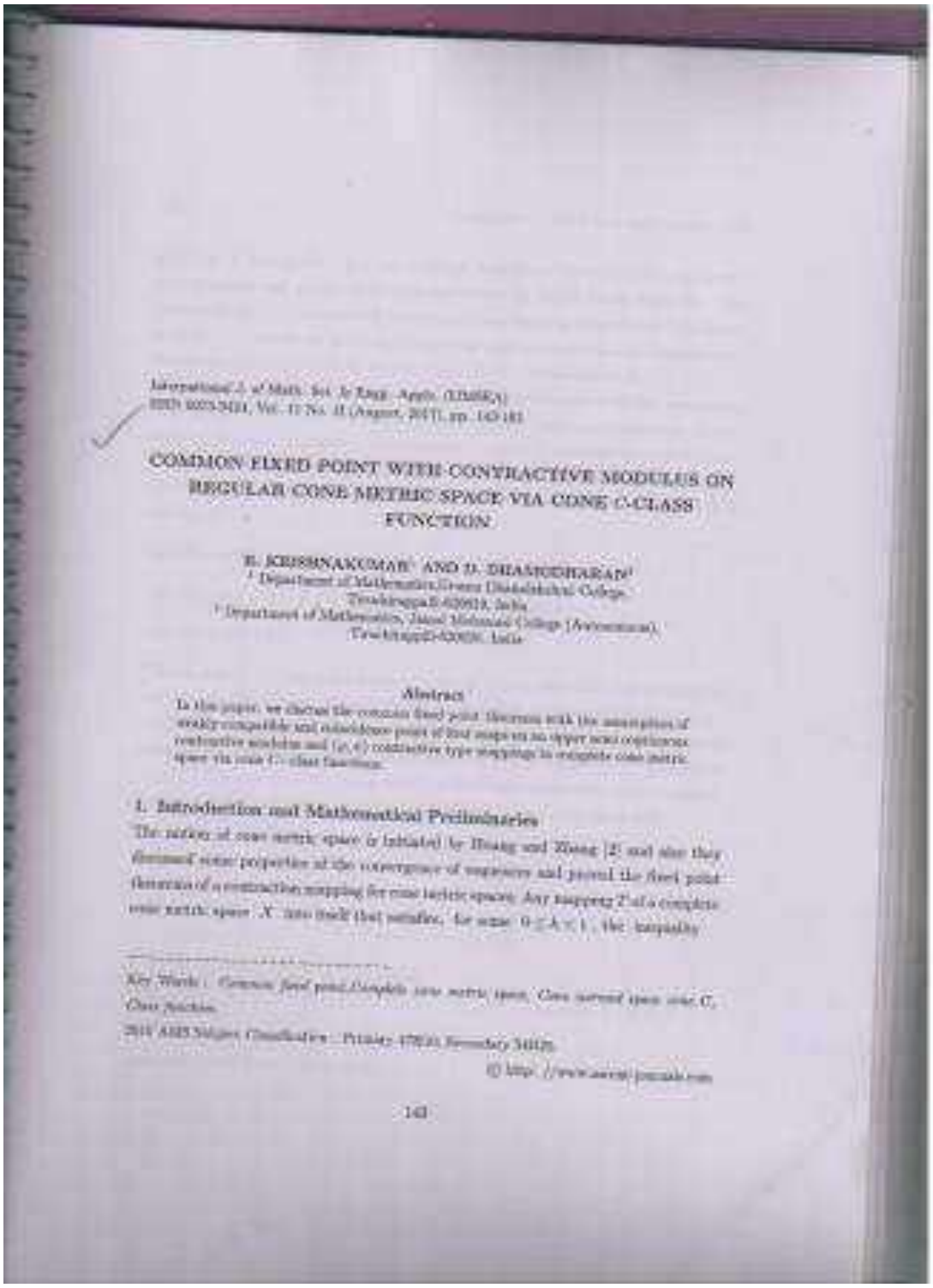
Definition 1.3. Let X be a non-empty set. Suppose the mapping $d : X \times X \to E$ satisfies

(a$_1$) $d(x, y) = 0$ if and only if $x = y$,
(a$_2$) $d(x, y) = d(y, x)$,
(a$_3$) $d(x, z) \le d(x, y) + d(y, z)$.

Then d is called cone metric [2] on X. Metric [2] on X and (X, d) is called a cone metric space [2] (CMS).

Date: Received: xxxxxx; Revised: yyyyyy; Accepted: zzzzzz.
* Corresponding author.
2010 Mathematics Subject Classification. Primary: 47H10, Secondary: 54H25.
Key words and phrases. common fixed point, (non-commuting) cone metric space, C-class function.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 11 No. II (August, 2017), pp. 143-161

COMMON FIXED POINT WITH CONTRACTIVE MODULUS ON REGULAR CONE METRIC SPACE VIA CONE C-CLASS FUNCTION

R. KRISHNAKUMAR[1] AND D. DHAMODHARAN[2]
[1] Department of Mathematics, Govt. Dharmapuri College,
Tamilnadu-636705, India.
[2] Department of Mathematics, Jamal Mohamed College (Autonomous),
Tiruchirappalli-620020, India.

Abstract

In this paper, we discuss the common fixed point theorem with the assumption of weakly compatible and coincidence point of four maps on an upper semi continuous contractive modulus and (ψ,ϕ) contractive type mappings in complete cone metric space via cone C-class functions.

1. Introduction and Mathematical Preliminaries

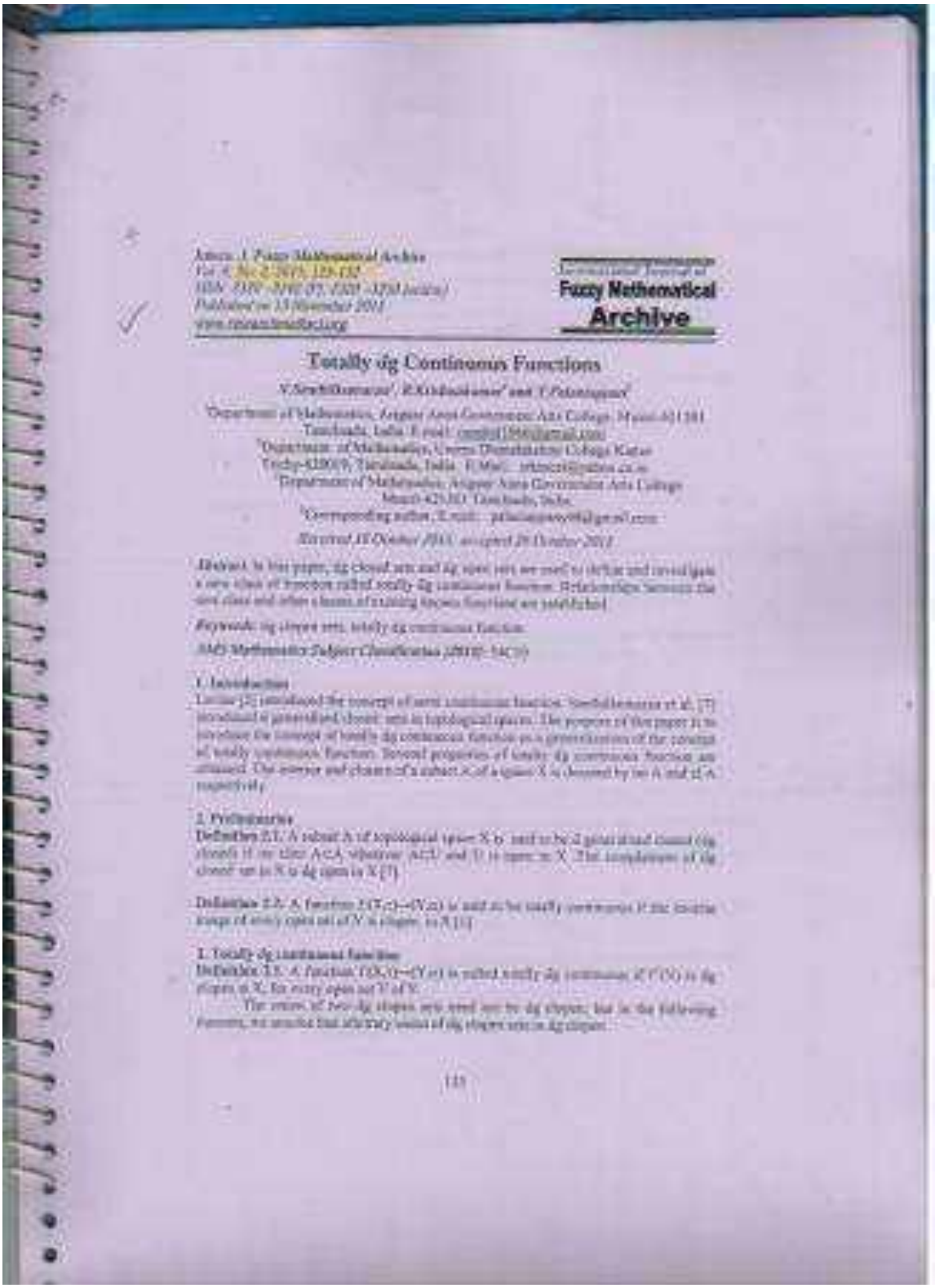
The notion of cone metric space is initiated by Huang and Zhang [2] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contractive mapping for cone metric spaces. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \le h < 1$, the inequality

Key Words : Common fixed point, Complete cone metric space, Cone normal, upper semi C-Class function.

2010 AMS Subject Classification : Primary 47H10, Secondary 54H25.

© http://www.ascent-journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Annals of Fuzzy Mathematical Archive
Vol. 4, No. 2 (2013), 129-132
ISSN: 2320 - 3242 (P), 2320 - 3250 (online)
Published on 13 November 2013
www.researchmathsci.org

International Journal of
Fuzzy Mathematical
Archive

Totally dg Continuous Functions

V.Seethalakshmi[1], R.Krishnakumar[2] and T.Selvaraj[3]

[1]Department of Mathematics, Arignar Anna Government Arts College, Musiri-621211
Tamilnadu, India. E-mail: seethal1984@gmail.com
[2]Department of Mathematics, Urumu Dhanalakshmi College Kattur
Trichy-620019, Tamilnadu, India. E-Mail: rkkmaths@yahoo.co.in
[3]Department of Mathematics, Arignar Anna Government Arts College
Musiri-621211, Tamilnadu, India.
[1]Corresponding author. E-mail: selvaraj.tvm@gmail.com

Received 10 October 2013; accepted 29 October 2013

Abstract. In this paper, dg closed sets and dg open sets are used to define and investigate a new class of function called totally dg continuous function. Relationships between this new class and other classes of existing known functions are established.

Keywords: dg closed sets, totally dg continuous function

AMS Mathematics Subject Classification (2010): 54C10

1. Introduction

Levine [2] introduced the concept of semi continuous function. Seethalakshmi et al. [7] introduced dg generalized closed sets in topological spaces. The purpose of this paper is to introduce the concept of totally dg continuous function as a generalization of the concept of totally continuous function. Several properties of totally dg continuous function are obtained. The interior and closure of a subset A of a space X is denoted by int A and cl A respectively.

2. Preliminaries

Definition 2.1: A subset A of topological space X is said to be a dg generalized closed (dg closed) if int cl $A \subset A$ whenever $A \subset U$ and U is open in X. The complement of dg closed set in X is dg open in X [7].

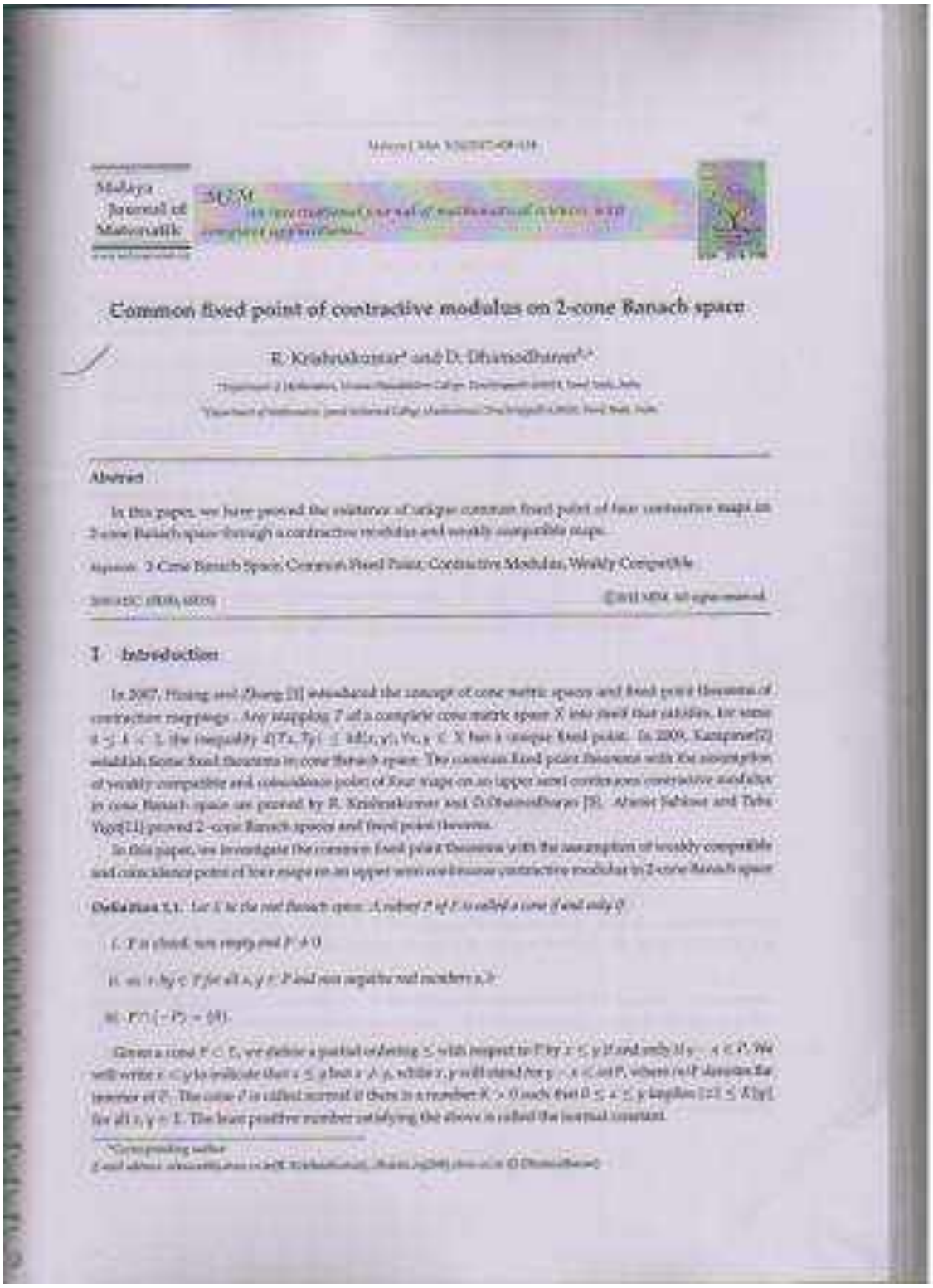
Definition 2.2: A function $f:(X,\tau)\to(Y,\sigma)$ is said to be totally continuous if the inverse image of every open set of Y is clopen in X [1].

3. Totally dg continuous function

Definition 3.1: *A function* $f:(X,\tau)\to(Y,\sigma)$ is called totally dg continuous if $f^{-1}(V)$ is dg clopen in X, for every open set V of Y.

The union of two dg clopen sets need not be dg clopen, but in the following theorem, we proved that arbitrary union of dg clopen sets is dg clopen.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Malaya Journal of Matematik

Common fixed point of contractive modulus on 2-cone Banach space

R. Krishnakumar* and D. Dhamodharan†,*

Abstract

In this paper, we have proved the existence of unique common fixed point of four contractive maps on 2-cone Banach space through a contractive modulus and weakly compatible maps.

Keywords: 2-Cone Banach Space, Common Fixed Point, Contractive Modulus, Weakly Compatible

2010 AMS Classification: 47H10, 54H25

©2012 MJM. All rights reserved.

1 Introduction

In 2007, Huang and Zhang [3] introduced the concept of cone metric spaces and fixed point theorems of contractive mappings. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \leq k < 1$, the inequality $d(Tx, Ty) \leq kd(x, y), \forall x, y \in X$ has a unique fixed point. In 2009, Kamran[7] established some fixed theorems in cone Banach space. The common fixed point theorems with the assumption of weakly compatible and coincidence point of four maps on an upper semi continuous contractive modulus in cone Banach space are proved by R. Krishnakumar and D.Dhamodharan [9]. Ahmet Sahiner and Tuba Yigit[11] proved 2-cone Banach spaces and fixed point theorems.

In this paper, we investigate the common fixed point theorems with the assumption of weakly compatible and coincidence point of four maps on an upper semi continuous contractive modulus in 2-cone Banach space.

Definition 1.1. *Let E be the real Banach space. A subset P of E is called a cone if and only if*

i. P is closed, non empty and $P \neq 0$

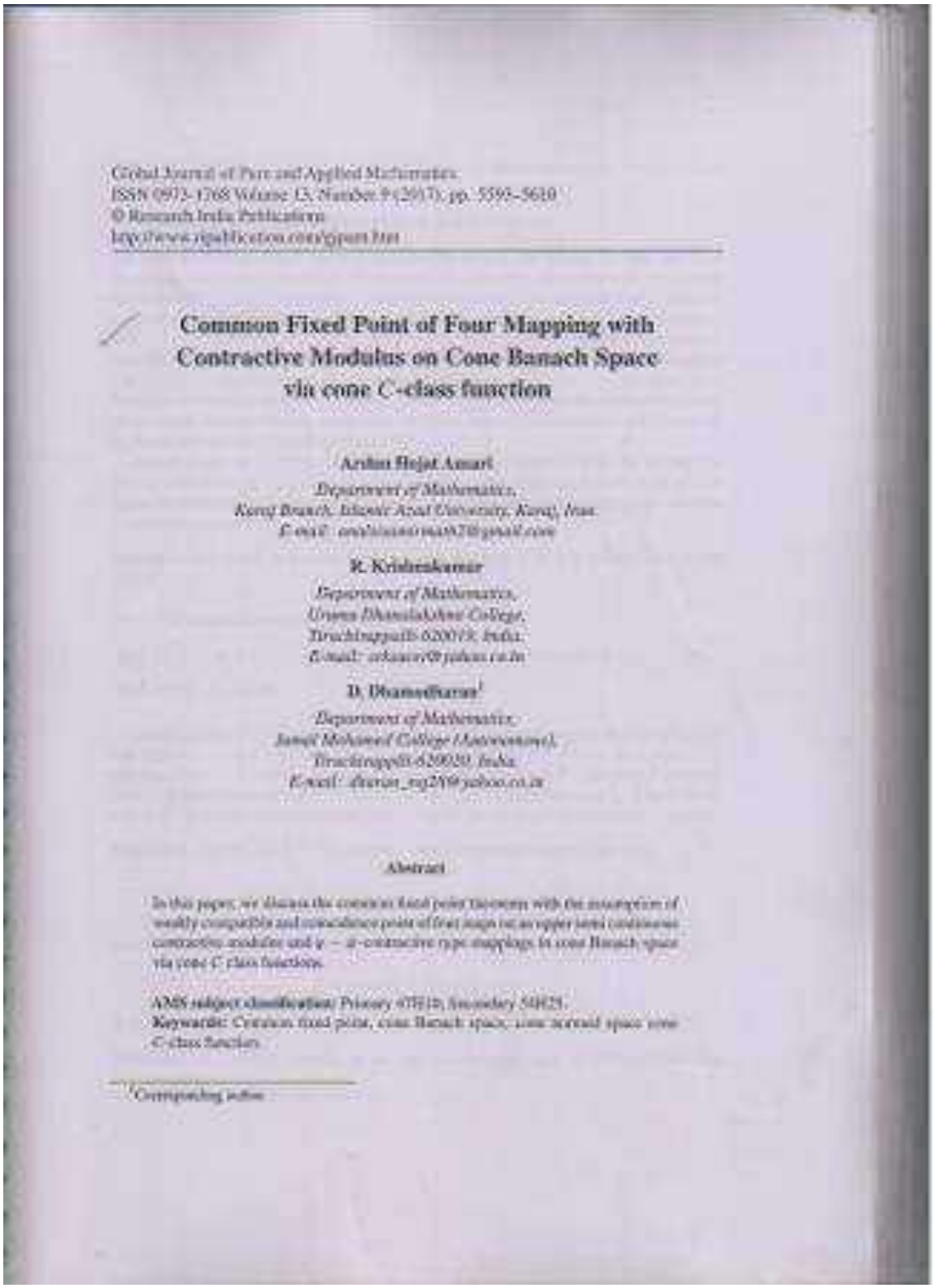
ii. $ax + by \in P$ for all $x, y \in P$ and non negative real numbers a, b

iii. $P \cap (-P) = \{0\}$.

Given a cone $P \subset E$, we define a partial ordering $\leq$ with respect to P by $x \leq y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \leq y$ but $x \neq y$, while x, y will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \leq x \leq y$ implies $\|x\| \leq K\|y\|$ for all $x, y \in E$. The least positive number satisfying the above is called the normal constant.

*Corresponding author
E-mail address: krishnakumar1_rkumar@yahoo.co.in (R. Krishnakumar), dhamo.jc@gmail.com (D. Dhamodharan)

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Global Journal of Pure and Applied Mathematics.
ISSN 0973-1768 Volume 13, Number 9 (2017), pp. 5595-5610
© Research India Publications
http://www.ripublication.com/gjpam.htm

Common Fixed Point of Four Mapping with Contractive Modulus on Cone Banach Space via cone C-class function

Arslan Hojat Ansari
Department of Mathematics,
Karaj Branch, Islamic Azad University, Karaj, Iran.
E-mail: analsisnumber1@gmail.com

R. Krishnakumar
Department of Mathematics,
Urumu Dhanalakshmi College,
Tiruchirappalli-620019, India.
E-mail: arkasc09@yahoo.co.in

D. Dhamodharan[1]
Department of Mathematics,
Jamal Mohamed College (Autonomous),
Tiruchirappalli-620020, India.
E-mail: dharan_raj2009@yahoo.co.in

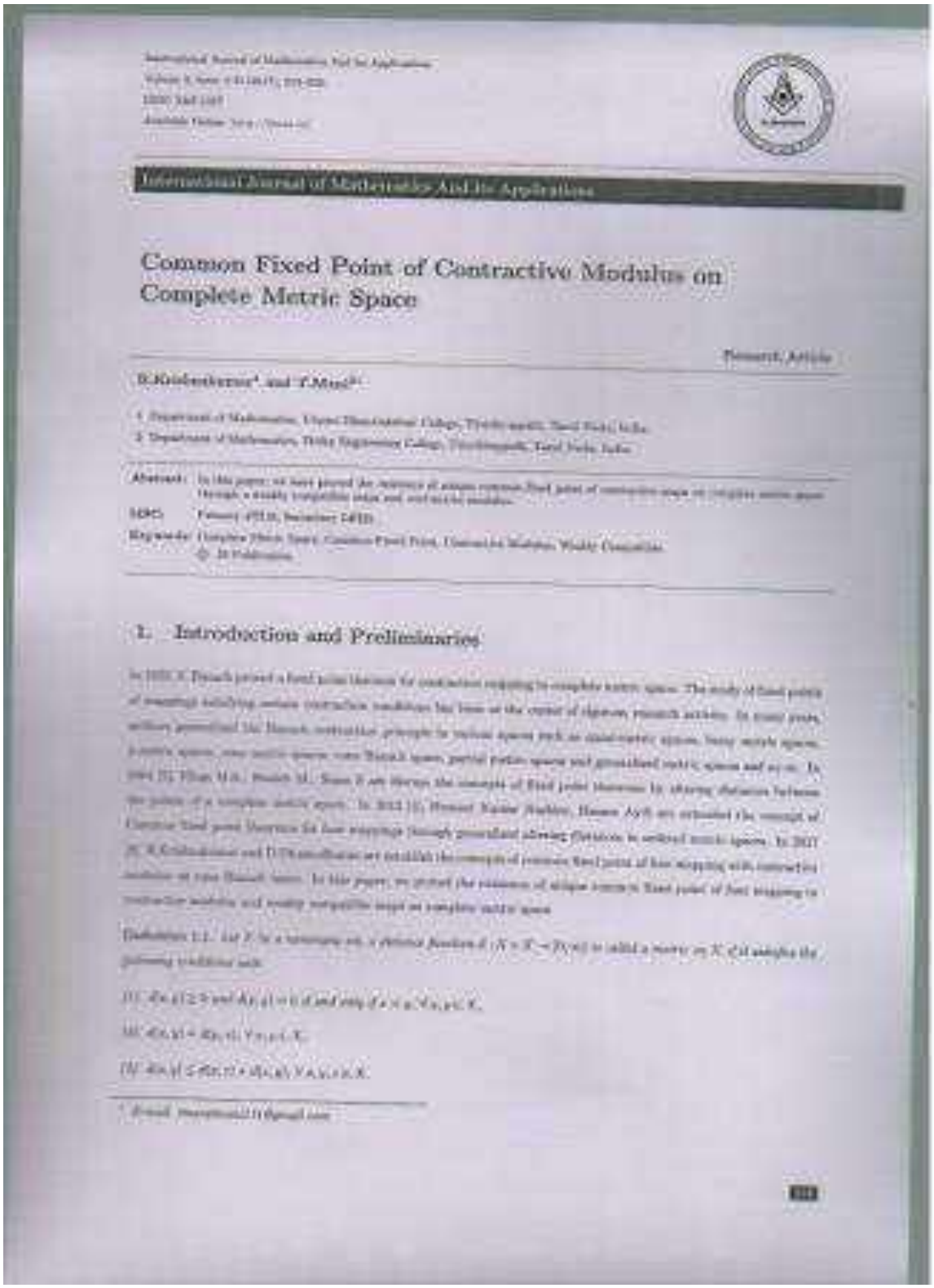
Abstract

In this paper, we discuss the common fixed point theorem with the assumption of weakly compatible and coincidence point of four maps on an upper semi continuous contractive modulus and $\psi - \phi$-contractive type mappings in cone Banach space via cone C-class function.

AMS subject classification: Primary 47H10, Secondary 54H25.
Keywords: Common fixed point, cone Banach space, cone normed space cone C-class function.

[1]Corresponding author

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics And its Applications

Common Fixed Point of Contractive Modulus on Complete Metric Space

Research Article

D.Kalaiselvan[1] and P.Mani[2]*

1. Department of Mathematics, Thiru Dhanushkodi College, Thirukkanthi, Tamil Nadu, India.
2. Department of Mathematics, Nehru Engineering College, Pambaipatti, Tamil Nadu, India.

Abstract: In this paper, we have proved the existence of unique common fixed point of contractive maps on complete metric space through a weakly compatible maps and weak control functions.

MSC: Primary 47H10, Secondary 54H25.

Keywords: Complete Metric Space, Common Fixed Point, Contractive Modulus, Weakly Compatible.

© JS Publications.

1. Introduction and Preliminaries

In 1922, S. Banach proved a fixed point theorem for contraction mapping in complete metric space. The study of fixed points of mappings satisfying various contractive conditions has been at the center of vigorous research activity. In many years, authors generalized the Banach contraction principle in various spaces such as quasi-metric spaces, fuzzy metric spaces, b-metric spaces, non-Archimedean spaces, cone Banach spaces, partial metric spaces and generalized metric spaces and so on. In 1994, [5] Khan M.S., Swaleh M., Sessa S. are obtain the concepts of fixed point theorems by altering distances between the points of a complete metric space. In 2012 [1], Hossein Kaedar Jaddari, Hassan Ayadi are introduced the concept of Common fixed point theorems for four mappings through generalized altering distances in ordered metric spaces. In 2017 [6], K.Kalaiselvan and D.Dhamodharan are establish the concepts of common fixed point of four mapping with contractive modulus in cone Banach space. In this paper, we proved the existence of unique common fixed point of four mapping via contractive modulus and weakly compatible maps on complete metric space.

Definition 1.1. *Let X be a nonempty set, a function $d : X \times X \to [0, \infty)$ is called a metric on X if it satisfies the following conditions such*

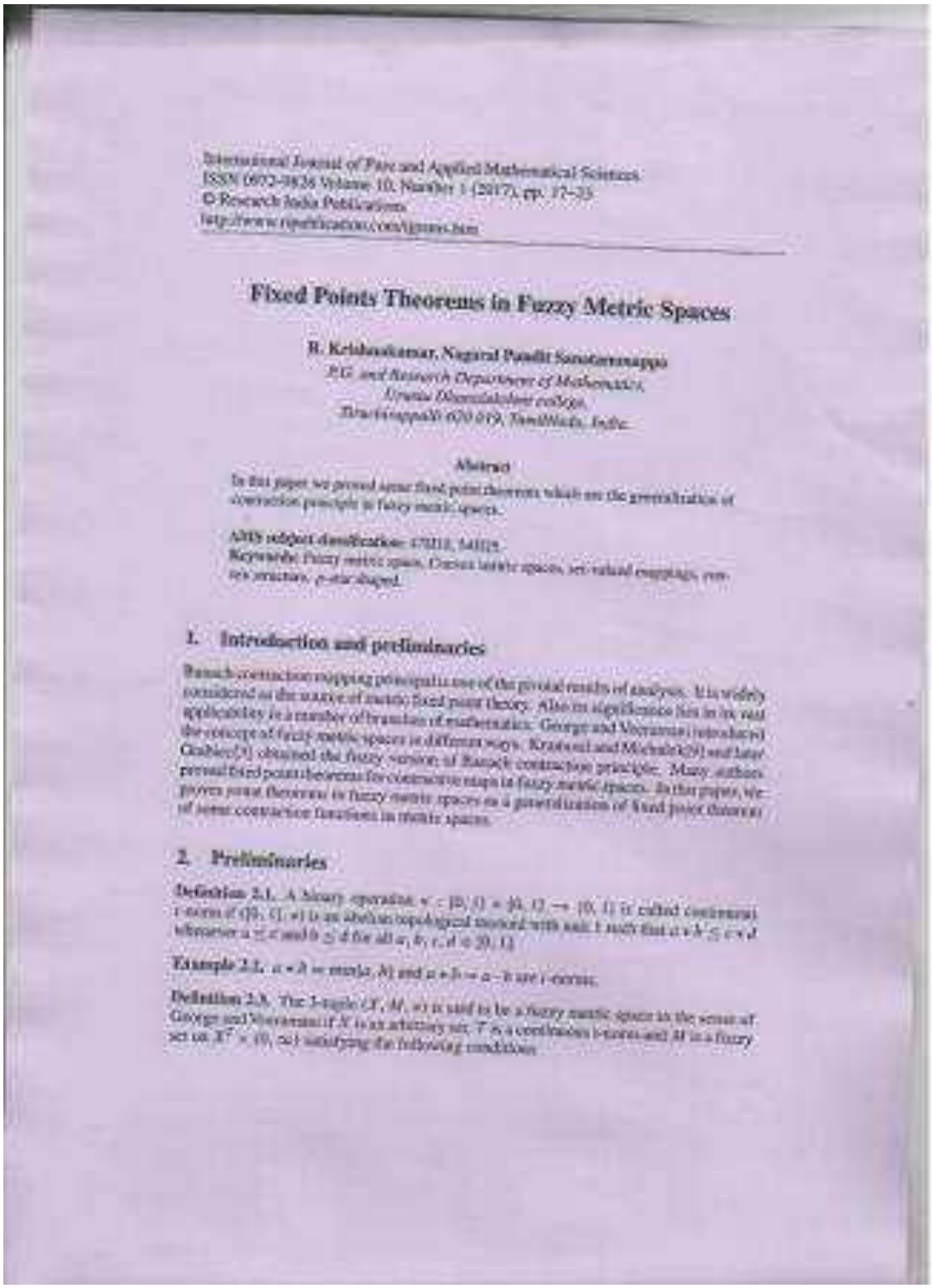
(1) $d(x, y) \geq 0$ and $d(x, y) = 0$ if and only if $x = y$, $\forall x, y \in X$.

(2) $d(x, y) = d(y, x)$, $\forall x, y \in X$.

(3) $d(x, y) \leq d(x, z) + d(z, y)$, $\forall x, y, z \in X$.

* E-mail: manimaths@rediffmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Pure and Applied Mathematical Sciences
ISSN 0972-9828 Volume 10, Number 1 (2017), pp. 17–25
© Research India Publications
http://www.ripublication.com/ijpams.htm

Fixed Points Theorems in Fuzzy Metric Spaces

R. Krishnakumar, Nagoral Pandit Sanatemmappa
P.G. and Research Department of Mathematics,
Urumu Dhanalakshmi college,
Tiruchirappalli 620 019, Tamilnadu, India.

Abstract

In this paper we proved some fixed point theorems which are the generalization of contraction principle in fuzzy metric spaces.

AMS subject classification: 47H10, 54H25
Keywords: Fuzzy metric space, Convex fuzzy metric spaces, set-valued mappings, convex structure, ρ-star shaped.

1. Introduction and preliminaries

Banach contraction mapping principle is one of the pivotal results of analysis. It is widely considered as the source of metric fixed point theory. Also its significance lies in its vast applicability in a number of branches of mathematics. George and Veeramani introduced the concept of fuzzy metric spaces in different ways. Kramosil and Michalek[9] and later Grabiec[3] obtained the fuzzy version of Banach contraction principle. Many authors proved fixed point theorems for contractive maps in fuzzy metric spaces. In this paper, we prove some theorems in fuzzy metric spaces as a generalization of fixed point theorems of some contractive functions in metric spaces.

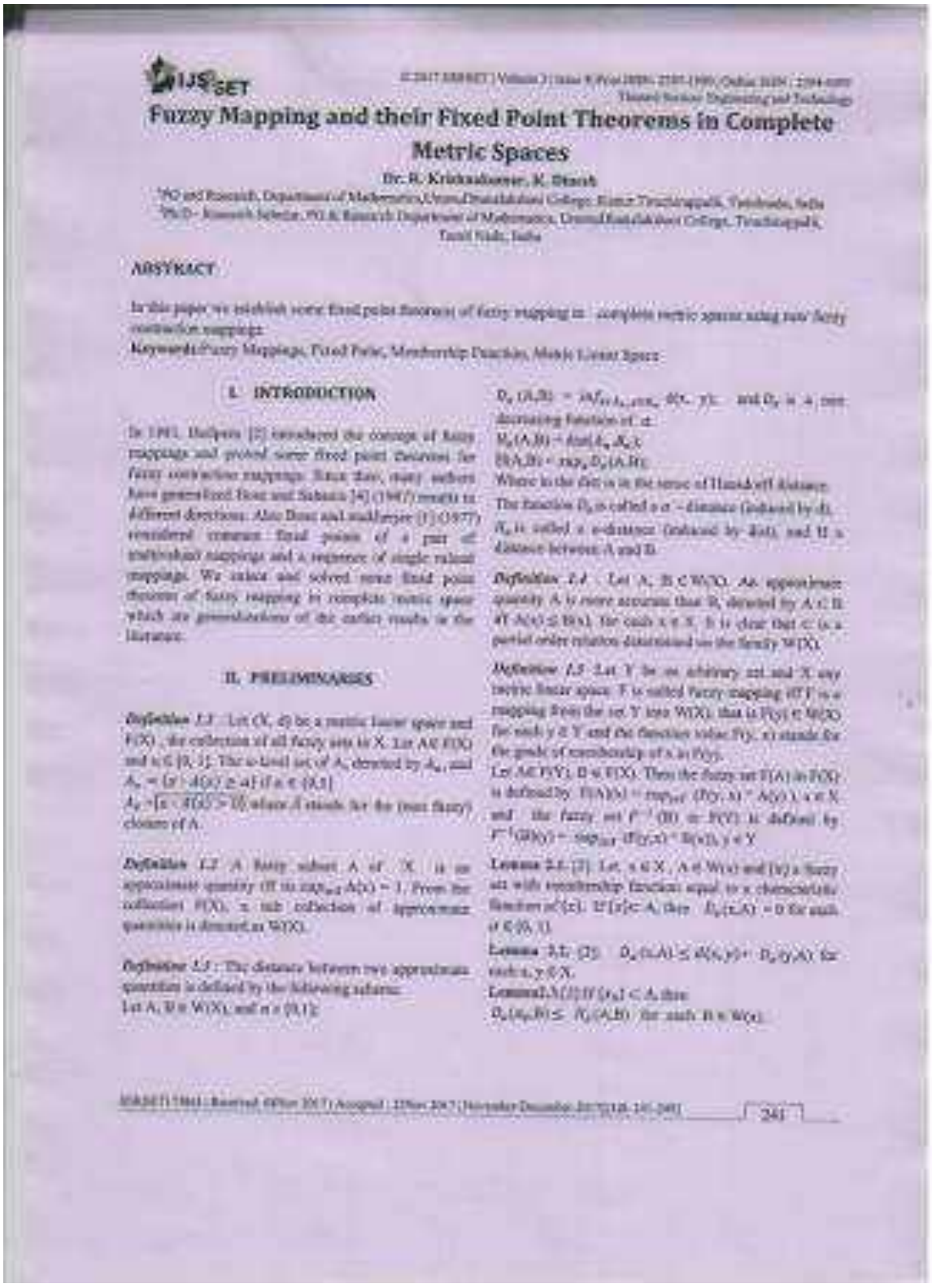
2. Preliminaries

Definition 2.1. A binary operation $* : [0, 1] \times [0, 1] \to [0, 1]$ is called continuous t-norm if $([0, 1], *)$ is an abelian topological monoid with unit 1 such that $a * b \leq c * d$ whenever $a \leq c$ and $b \leq d$ for all $a, b, c, d \in [0, 1]$.

Example 2.2. $a * b = \min\{a, b\}$ and $a * b = a - b$ are t-norms.

Definition 2.3. The 3-tuple $(X, M, *)$ is said to be a fuzzy metric space in the sense of George and Veeramani if X is an arbitrary set, $*$ is a continuous t-norm and M is a fuzzy set on $X^2 \times (0, \infty)$ satisfying the following conditions

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJSRSET

Fuzzy Mapping and their Fixed Point Theorems in Complete Metric Spaces

Dr. R. Krishnakumar, K. Dinesh

[1]PG and Research, Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, Tamilnadu, India
[2]Ph.D - Research Scholar, PG & Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

ABSTRACT

In this paper we establish some fixed point theorems of fuzzy mapping in complete metric spaces using new fuzzy contraction mappings.

Keywords: Fuzzy Mappings, Fixed Point, Membership Function, Metric Linear Space

I. INTRODUCTION

In 1981, Heilpern [2] introduced the concept of fuzzy mappings and proved some fixed point theorems for fuzzy contraction mappings. Since then, many authors have generalized Nadler and Saharia [4] (1987) results in different directions. Also Bose and Mukherjee [1] (1977) considered common fixed points of a pair of multivalued mappings and a sequence of single valued mappings. We initiate and solved some fixed point theorem of fuzzy mapping in complete metric space which are generalizations of the earlier results in the literature.

II. PRELIMINARIES

Definition 1.1 : Let (X, d) be a metric linear space and $F(X)$, the collection of all fuzzy sets in X. Let $A \in F(X)$ and $\alpha \in [0, 1]$. The α-level set of A, denoted by A_α, and $A_\alpha = \{x : A(x) \geq \alpha\}$ if $\alpha \in (0,1]$
$A_0 = \{x : A(x) > 0\}$ where A stands for the (usual fuzzy) closure of A.

Definition 1.2 : A fuzzy subset A of X is an approximate quantity iff $\sup_{x \in X} A(x) = 1$. From the collection $F(X)$, a sub collection of approximate quantities is denoted as $W(X)$.

Definition 1.3 : The distance between two approximate quantities is defined by the following notions:
Let $A, B \in W(X)$, and $\alpha \in [0,1]$;

$D_\alpha(A,B) = \inf\{d(x,y) : x \in A_\alpha, y \in B_\alpha\}$ and D_α is a non decreasing function of α.
$M_0(A,B) = \sup\{d_\alpha A_\alpha\}$
$H(A,B) = \sup_\alpha D_\alpha(A,B)$;
Where in the $d(x)$ is in the sense of Hausdorff distance.
The function D_α is called a α - distance (induced by d), M_0 is called a α-distance (induced by $d(x)$), and H a distance between A and B.

Definition 1.4 : Let $A, B \in W(X)$. An approximate quantity A is more accurate than B, denoted by $A \subset B$ iff $A(x) \leq B(x)$, for each $x \in X$. It is clear that $\subset$ is a partial order relation determined on the family $W(X)$.

Definition 1.5 : Let Y be an arbitrary set and X any metric linear space. F is called fuzzy mapping iff F is a mapping from the set Y into $W(X)$, that is $F(y) \in W(X)$ for each $y \in Y$ and the function value $F(y, x)$ stands for the grade of membership of x in $F(y)$.
Let $A \in F(Y)$, $B \in F(X)$. Then the fuzzy set $F(A)$ in $F(X)$ is defined by $F(A)(x) = \sup_{y \in Y} \{F(y, x) \wedge A(y)\}$, $x \in X$ and the fuzzy set $F^{-1}(B)$ in $F(Y)$ is defined by $F^{-1}(B)(y) = \sup_{x \in X} \{F(y,x) \wedge B(x)\}$, $y \in Y$.

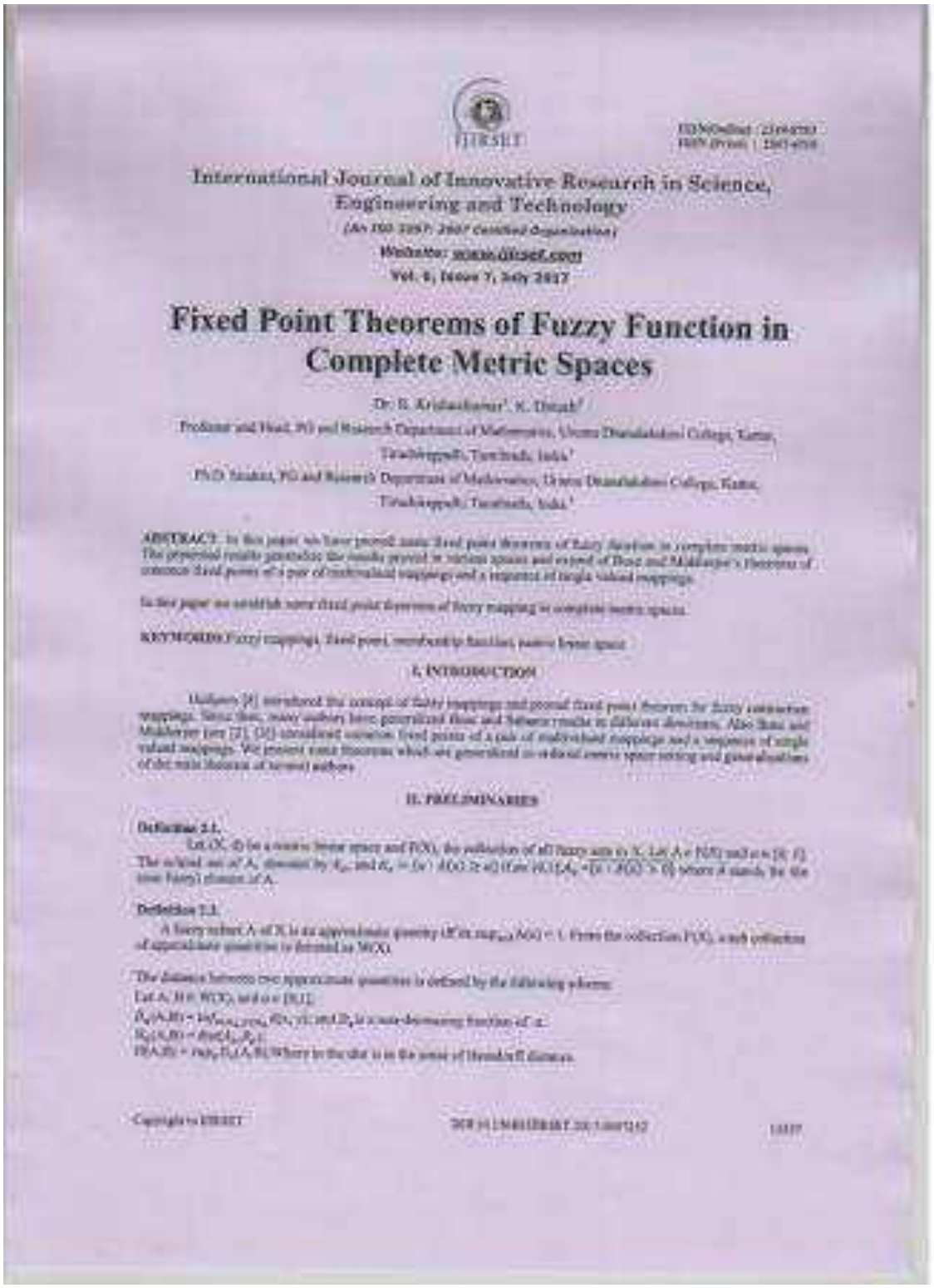
Lemma 2.1. [2]: Let $x \in X$, $A \in W(x)$ and $[x]$ a fuzzy set with membership function equal to a characteristic function $\alpha[x]$. If $[x] \subset A$, then $D_\alpha(x,A) = 0$ for each $\alpha \in (0, 1]$.

Lemma 2.2. [2]: $D_\alpha(x,A) \leq d(x,y) + D_\alpha(y,A)$ for each $x, y \in X$.

Lemma 2.3. [2]: If $[x_0] \subset A$, then $D_\alpha(x_0, B) \leq H_\alpha(A,B)$ for each $B \in W(x)$.

IJSRSET17961 | Received: 09 Nov 2017 | Accepted: 23 Nov 2017 | November-December-2017 [3(8): 241-245]

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJIRSET

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 7, July 2017

Fixed Point Theorems of Fuzzy Function in Complete Metric Spaces

Dr. S. Krishnakumar[1], K. Durgah[2]

[1] Professor and Head, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, Tamilnadu, India[1]

[2] Ph.D. Scholar, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, Tamilnadu, India[2]

ABSTRACT: In this paper we have proved some fixed point theorems of fuzzy function in complete metric spaces. The proposed results generalize the results proved in various spaces and extend of Rhoe and Middleton's Theorems of common fixed points of a pair of multivalued mappings and a sequence of single valued mappings.

In this paper we establish some fixed point theorems of fuzzy mapping in complete metric spaces.

KEYWORDS: Fuzzy mappings, fixed point, membership function, metric linear space.

I. INTRODUCTION

Heilpern [8] introduced the concept of fuzzy mappings and proved fixed point theorem for fuzzy contraction mappings. Since then, many authors have generalized these and Subrahmanyam results in different directions. Also Rhoe and Middleton per [21], [22] considered common fixed points of a pair of multivalued mappings and a sequence of single valued mappings. We present some theorems which are generalized to ordered metric space setting and generalizations of the main theorem of various authors.

II. PRELIMINARIES

Definition 2.1.

Let (X, d) be a metric linear space and $F(X)$, the collection of all fuzzy sets in X. Let $A \in F(X)$ and $\alpha \in [0, 1]$. The α-level set of A, denoted by A_α and $A_\alpha = \{x : A(x) \geq \alpha\}$ if $\alpha \in (0,1]$, $A_0 = \{x : A(x) > 0\}$ where A stands for the closure of A.

Definition 2.2.

A fuzzy subset A of X is an approximate quantity if $\sup_{x \in X} A(x) = 1$. From the collection $F(X)$, a sub collection of approximate quantities is denoted as $W(X)$.

The distance between two approximate quantities is defined by the following scheme:

Let $A, B \in W(X)$, and $\alpha \in [0,1]$.

$D_\alpha(A,B) = \inf\{d(x,y) : x \in A_\alpha, y \in B_\alpha\}$ and D_α is a non-decreasing function of α.

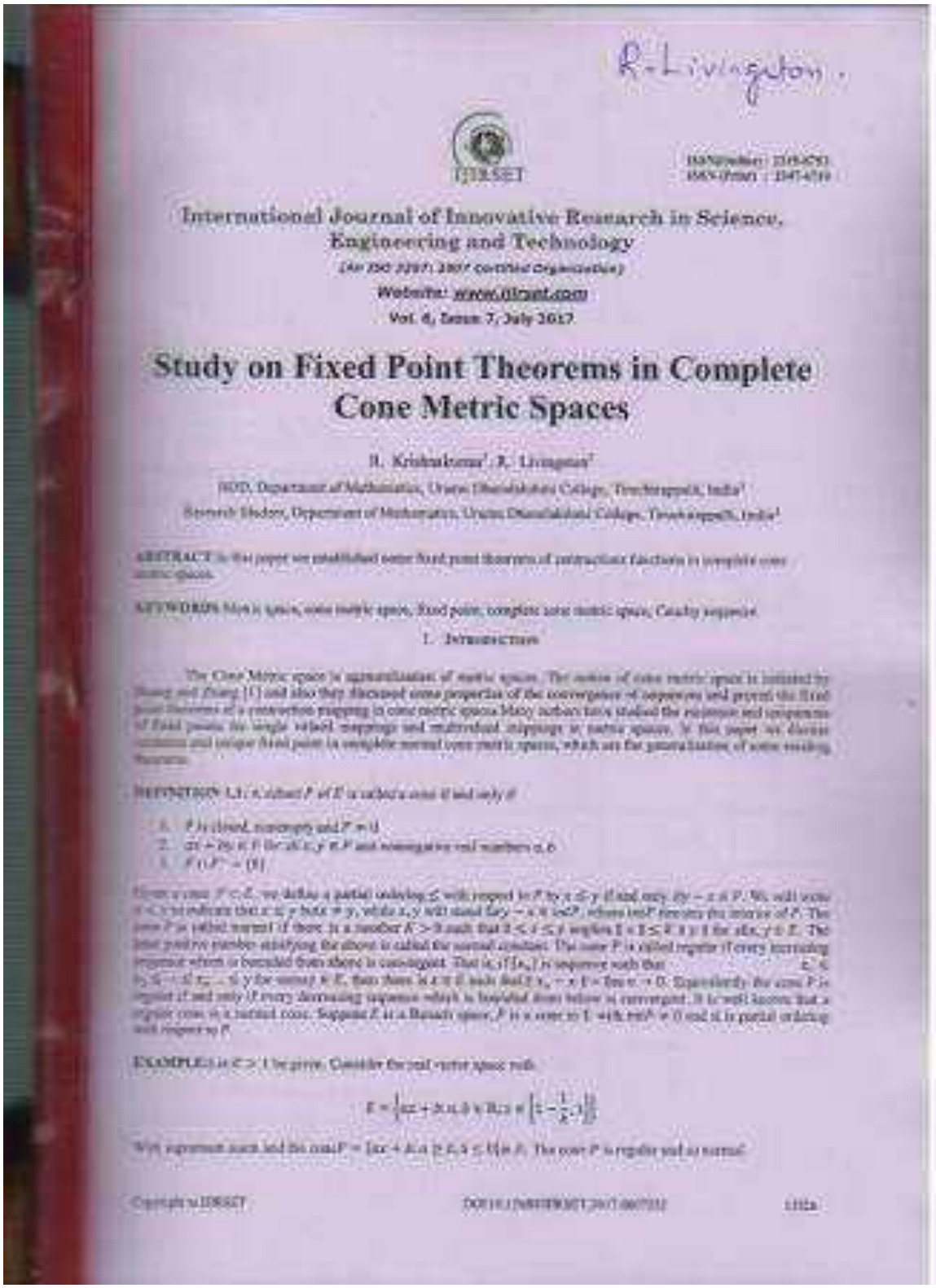
$S_\alpha(A,B) = \sup\{d(x,y) : x \in A_\alpha, y \in B_\alpha\}$.

$H(A,B) = \sup_\alpha H_\alpha(A,B)$ Where H is the dist is in the sense of Hausdorff distance.

Copyright to IJIRSET

DOI: 10.15680/IJIRSET.2017.0607012

3.3.2. Number of research papers per teacher in the Journals notified on UGC



R. Livingston.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Website: www.ijirset.com

Vol. 6, Issue 7, July 2017

Study on Fixed Point Theorems in Complete Cone Metric Spaces

R. Krishnakumar[1], R. Livingston[2]

HOD, Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India[1]

Research Student, Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India[2]

ABSTRACT: In this paper we established some fixed point theorems of contraction mappings in complete cone metric spaces.

KEYWORDS: Metric space, cone metric space, fixed point, complete cone metric space, Cauchy sequence.

I. INTRODUCTION

The Cone Metric space is generalization of metric space. The notion of cone metric space is initiated by Huang and Zhang [1] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contraction mapping in cone metric spaces.Many authors have studied the existence and uniqueness of fixed points for single valued mappings and multivalued mappings in metric spaces. In this paper we discuss existence and unique fixed point in complete normal cone metric spaces, which are the generalization of some existing theorems.

DEFINITION 1.1: A subset P of E is called a cone if and only if

1. P is closed, nonempty and $P \neq \{0\}$
2. $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b
3. $P \cap (-P) = \{0\}$

Given a cone $P \subset E$, we define a partial ordering $\leq$ with respect to P by $x \leq y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \leq y$ but $x \neq y$, while x, y will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \leq x \leq y$ implies $\|x\| \leq K\|y\|$ for all $x, y \in E$. The least positive number satisfying the above is called the normal constant. The cone P is called regular if every increasing sequence which is bounded from above is convergent. That is, if $\{x_n\}$ is sequence such that $x_1 \leq x_2 \leq \cdots \leq x_n \leq \cdots \leq y$ for some $y \in E$, then there is a $x \in E$ such that $\|x_n - x\| \to 0$ as $n \to \infty$. Equivalently, the cone P is regular if and only if every decreasing sequence which is bounded from below is convergent. It is well known that a regular cone is a normal cone. Suppose E is a Banach space, P is a cone in E with $\text{int}P \neq \emptyset$ and $\leq$ is partial ordering with respect to P.

EXAMPLE 1.1: Let $E = \mathbb{R}^2$ be given. Consider the real vector space with

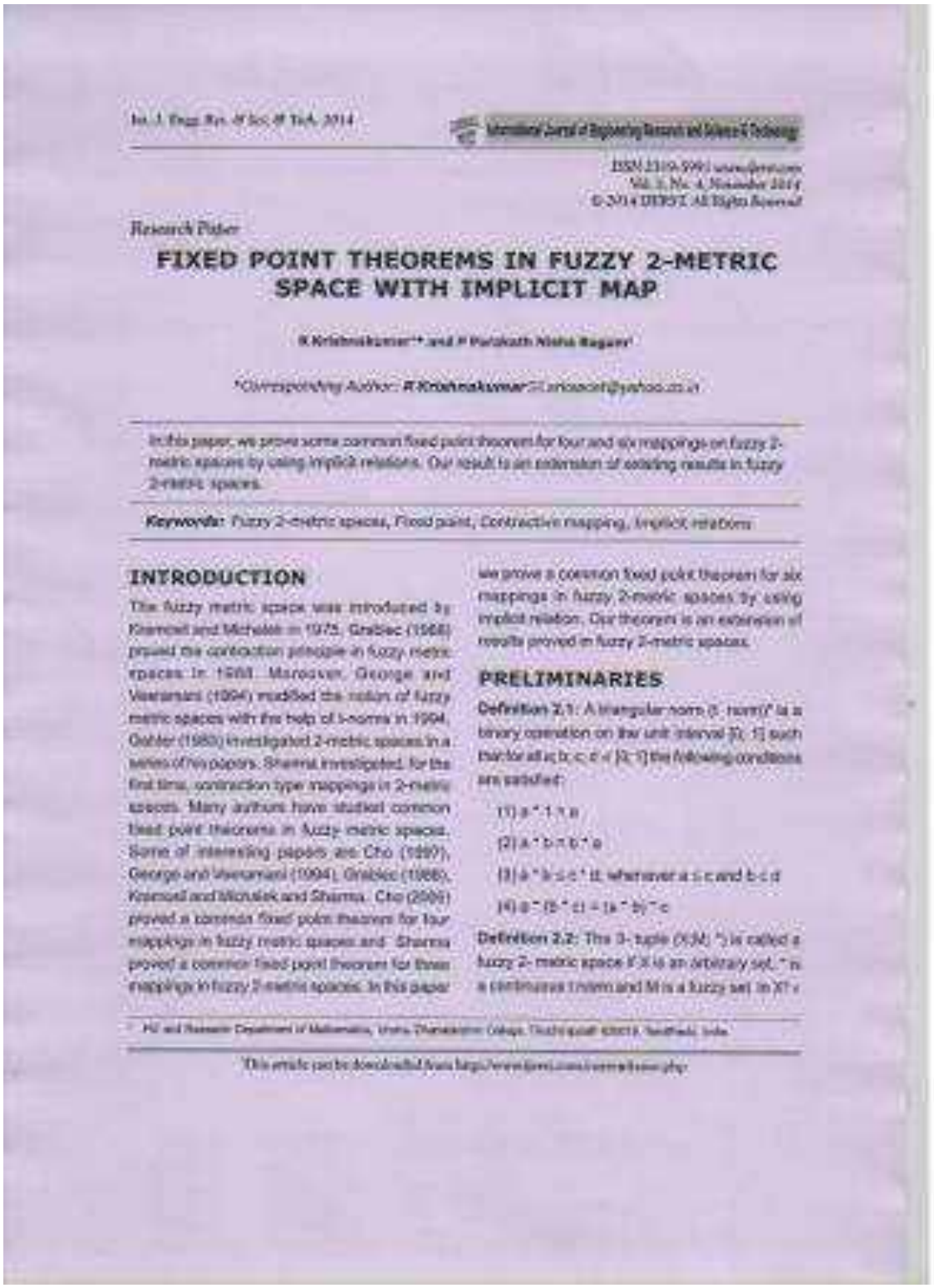
$$E = \left\{ax + by, x, y \in \mathbb{R}\right\} \text{ in } \left[1, -\frac{1}{2}, 2\right]$$

With supremum norm and the cone $P = \{ax + by, a, b \geq 0, x \leq 1\}$ in E. The cone P is regular and so normal.

Copyright to IJIRSET

DOI: 10.15680/IJIRSET.2017.0607232

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Int. J. Engg. Res. & Sci. & Tech. 2014

ISSN 2319-5991 www.ijerst.com
Vol. 3, No. 4, November 2014
© 2014 IJERST. All Rights Reserved

Research Paper

FIXED POINT THEOREMS IN FUZZY 2-METRIC SPACE WITH IMPLICIT MAP

R.Krishnakumar*1 and P.Parikkath Nisha Nagavi1

*Corresponding Author: R.Krishnakumar,krishnaresh@yahoo.co.in

In this paper, we prove some common fixed point theorem for four and six mappings on fuzzy 2-metric spaces by using implicit relations. Our result is an extension of existing results in fuzzy 2-metric spaces.

Keywords: Fuzzy 2-metric spaces, Fixed point, Contractive mapping, Implicit relations

INTRODUCTION

The fuzzy metric space was introduced by Kramosil and Michalek in 1975. Grabiec (1988) proved the contraction principle in fuzzy metric spaces. In 1988, Moreover, George and Veeramani (1994) modified the notion of fuzzy metric spaces with the help of t-norms in 1994. Gahler (1980) investigated 2-metric spaces in a series of his papers. Sharma investigated, for the first time, contraction type mappings in 2-metric spaces. Many authors have studied common fixed point theorems in fuzzy metric spaces. Some of interesting papers are Cho (1997), George and Veeramani (1994), Grabiec (1988), Kramosil and Michalek and Sharma. Cho (2006) proved a common fixed point theorem for four mappings in fuzzy metric spaces and Sharma proved a common fixed point theorem for three mappings in fuzzy 2-metric spaces. In this paper we prove a common fixed point theorem for six mappings in fuzzy 2-metric spaces by using implicit relation. Our theorem is an extension of results proved in fuzzy 2-metric spaces.

PRELIMINARIES

Definition 2.1: A triangular norm (t- norm)* is a binary operation on the unit interval [0, 1] such that for all a, b, c, d ∈ [0, 1] the following conditions are satisfied:

(1) $a * 1 = a$

(2) $a * b = b * a$

(3) $a * b \le c * d$, whenever $a \le c$ and $b \le d$

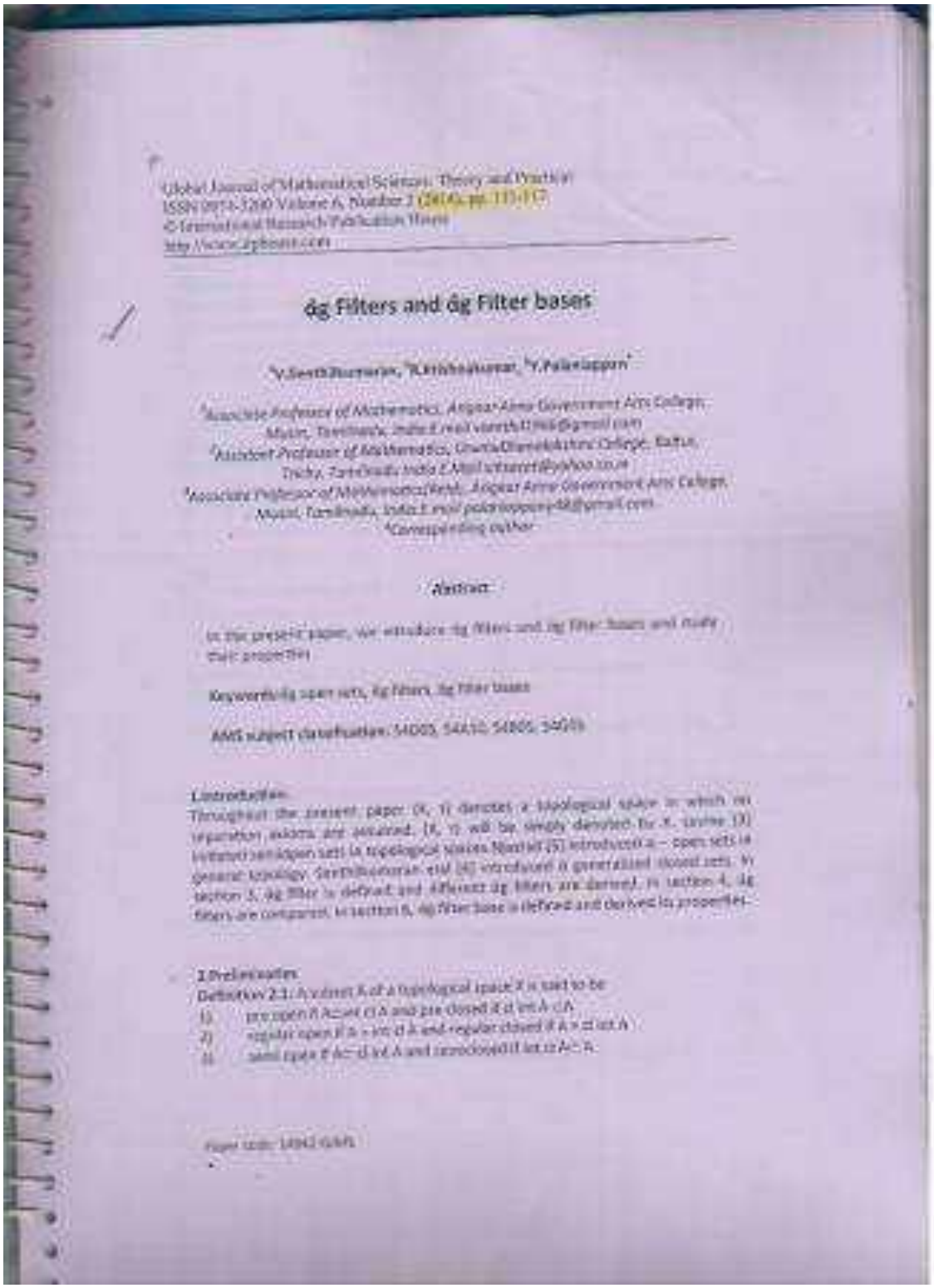
(4) $a * (b * c) = (a * b) * c$

Definition 2.2: The 3- tuple $(X, M, *)$ is called a fuzzy 2- metric space if X is an arbitrary set, * is a continuous t-norm and M is a fuzzy set in $X^3 \times$

1 PG and Research Department of Mathematics, Vivekananda College, Thiruvedakam West, Madurai, India.

This article can be downloaded from http://www.ijerst.com/current-issue.php

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Global Journal of Mathematical Sciences: Theory and Practice
ISSN 0974-3200 Volume 6, Number 2 (2014), pp. 111-117
© International Research Publication House
http://www.irphouse.com

ĝg Filters and ĝg Filter bases

[1]V.Seethalakshmi, [2]K.Krishnakumar, [3]V.Palaniappan*

[1]Associate Professor of Mathematics, Angalaramman Government Arts College, Musiri, Tamilnadu, India E-mail: vseethalakshmi@gmail.com
[2]Assistant Professor of Mathematics, Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India E-Mail: kkannan@yahoo.co.in
[3]Associate Professor of Mathematics(Retd.), Angalaramman Government Arts College, Musiri, Tamilnadu, India E-mail: palaniappanv48@gmail.com
*Corresponding author

Abstract

In the present paper, we introduce ĝg filters and ĝg filter bases and study their properties

Keywords: ĝg open sets, ĝg filters, ĝg filter bases

AMS subject classification: 54D05, 54A10, 54B05, 54G05

1.Introduction

Throughout the present paper (X, τ) denotes a topological space in which no separation axioms are assumed. (X, τ) will be simply denoted by X. Levine [3] initiated semi-open sets in topological spaces. Maki et al [5] introduced α – open sets in general topology. Seethalakshmi et al [6] introduced a generalized closed sets. In section 3, ĝg filter is defined and different ĝg filters are derived. In section 4, ĝg filters are compared. In section 5, ĝg filter base is defined and derived its properties.

2.Preliminaries

Definition 2.1: A subset A of a topological space X is said to be

1) pre-open if A ⊆ int cl A and pre-closed if cl int A ⊆ A
2) regular open if A = int cl A and regular closed if A = cl int A
3) semi-open if A ⊆ cl int A and semi-closed if int cl A ⊆ A.

Paper code: 14042 (rev)

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Malaya Journal of Matematik

Common Fixed Point of Four Mapping With Contractive Modulus on Cone Banach Space

R.Krishnakumar*, D.Dhamodharan†

In this paper we have proved the existence of unique common fixed point of four contractive maps on cone Banach space through an upper semi continuous contractive modulus and weakly compatible maps.

Keywords: Cone Banach Space, Common Fixed Point, Contractive Modulus, Weakly Compatible.

©2013 MJM. All rights reserved.

1. Introduction

The notion of cone metric space is initiated by Huang and Zhang [3] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contraction mapping for cone metric spaces. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \leq k < 1$, the inequality $d(Tx,Ty) \leq kd(x,y), \forall x, y \in X$ has a unique fixed point. Some fixed theorems in cone Banach space are given by Kosupirati[5].

In this paper, we investigate the common fixed point theorems with the assumption of weakly compatible and coincidence point of four maps on an upper semi continuous contractive modulus in cone Banach space.

Definition 1.1. *Let E be the real Banach space. A subset P of E is called a cone if and only if:*

i. P is closed, non empty and $P \neq \{0\}$

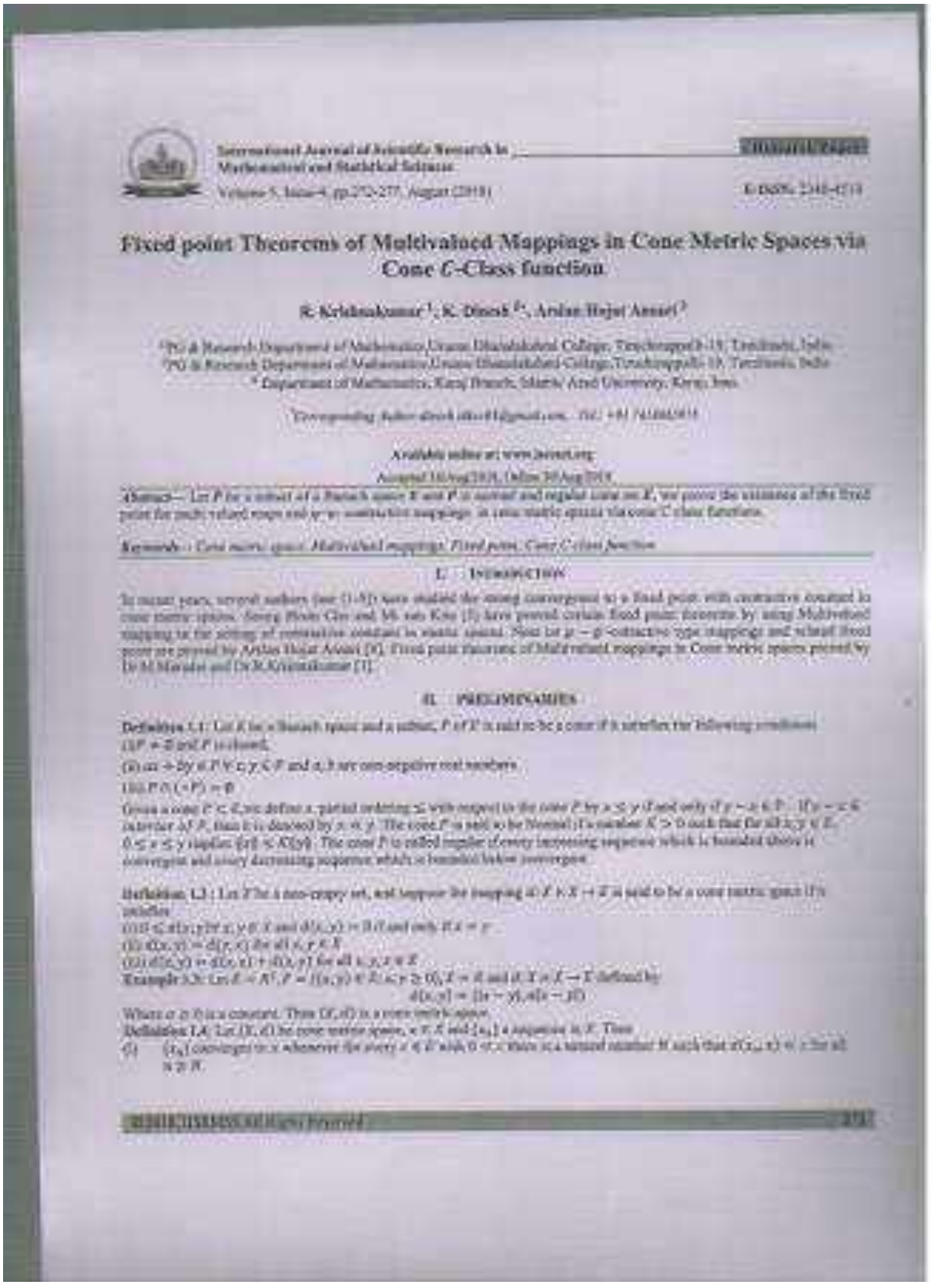
ii. $ax + by \in P$ for all $x, y \in P$ and non negative real numbers a, b

iii. $P \cap (-P) = \{0\}$

Given a cone $P \subset E$, we define a partial ordering $\leq$ with respect to P by $x \leq y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \leq y$ but $x \neq y$, while $x \ll y$ will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \leq x \leq y$ implies $\|x\| \leq K\|y\|$, for all $x, y \in E$. The least positive number satisfying the above is called the normal constant.

* Corresponding author
† E-mail addresses: rkkmaths@gmail.com (R.Krishnakumar), dhamu.jec2005@yahoo.co.in (D.Dhamodharan)

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences
Volume 5, Issue 4, pp.270-277, August (2018)
E-ISSN: 2348-4519

Fixed point Theorems of Multivalued Mappings in Cone Metric Spaces via Cone C-Class function

R. Krishnakumar [1], K. Dinesh [2]*, Arslan Hojat Ansari [3]

[1]PG & Research Department of Mathematics,Urumu Dhanalakshmi College, Tiruchirappalli-19, Tamilnadu, India.
[2]PG & Research Department of Mathematics,Urumu Dhanalakshmi College,Tiruchirappalli-19, Tamilnadu, India.
[3] Department of Mathematics, Karaj Branch, Islamic Azad University, Karaj, Iran.

*Corresponding Author: dinesh.dkm84@gmail.com, Tel.: +91-7418863818

Available online at: www.isroset.org

Accepted 16/Aug/2018, Online 30/Aug/2018

Abstract— Let P be a subset of a Banach space X and P is normal and regular cone on X, we prove the existence of the fixed point for multi valued maps and g- ψ- contractive mappings in cone metric spaces via cone C-class functions.

Keywords— *Cone metric space, Multivalued mappings, Fixed point, Cone C-class function*

I. INTRODUCTION

In recent years, several authors (see [1-5]) have studied the strong convergence to a fixed point with contractive constant in cone metric spaces. Seong Hoon Cho and Mi sun Kim [3] have proved certain fixed point theorems by using Multivalued mapping in the setting of contractive constant in metric spaces. Next let g – ψ -contractive type mappings and related fixed point are proved by Arslan Hojat Ansari [6]. Fixed point theorems of Multivalued mappings in Cone metric spaces proved by Dr.M.Marudai and Dr.R.Krishnakumar [7].

II. PRELIMINARIES

Definition 1.1: Let X be a Banach space and a subset, P of X is said to be a cone if it satisfies the following conditions

(1) $P \neq \overline{0}$ and P is closed,

(2) $ax + by \in P$ $\forall$ $x, y \in P$ and a, b are non-negative real numbers

(3) $P \cap (-P) = \overline{0}$

Given a cone $P \subset E$, we define a partial ordering $\leq$ with respect to the cone P by $x \leq y$ if and only if $y - x \in P$. If $y - x \in$ interior of P, then it is denoted by $x \ll y$. The cone P is said to be Normal if a number $K > 0$ such that for all $x, y \in E$, $0 \leq x \leq y$ implies $\|x\| \leq K\|y\|$. The cone P is called regular if every increasing sequence which is bounded above is convergent and every decreasing sequence which is bounded below convergent.

Definition. 1.2: Let X be a non-empty set, and suppose the mapping $d: X \times X \to E$ is said to be a cone metric space if it satisfies

(1) $\overline{0} \leq d(x, y)$ for $x, y \in X$ and $d(x, y) = \overline{0}$ if and only if $x = y$

(2) $d(x, y) = d(y, x)$ for all $x, y \in X$

(3) $d(x, y) \leq d(x, z) + d(z, y)$ for all $x, y, z \in X$

Example 1.3: Let $E = R^2$, $P = \{(x, y) \in E; x, y \geq 0\}$, $X = R$ and $d: X \times X \to E$ defined by

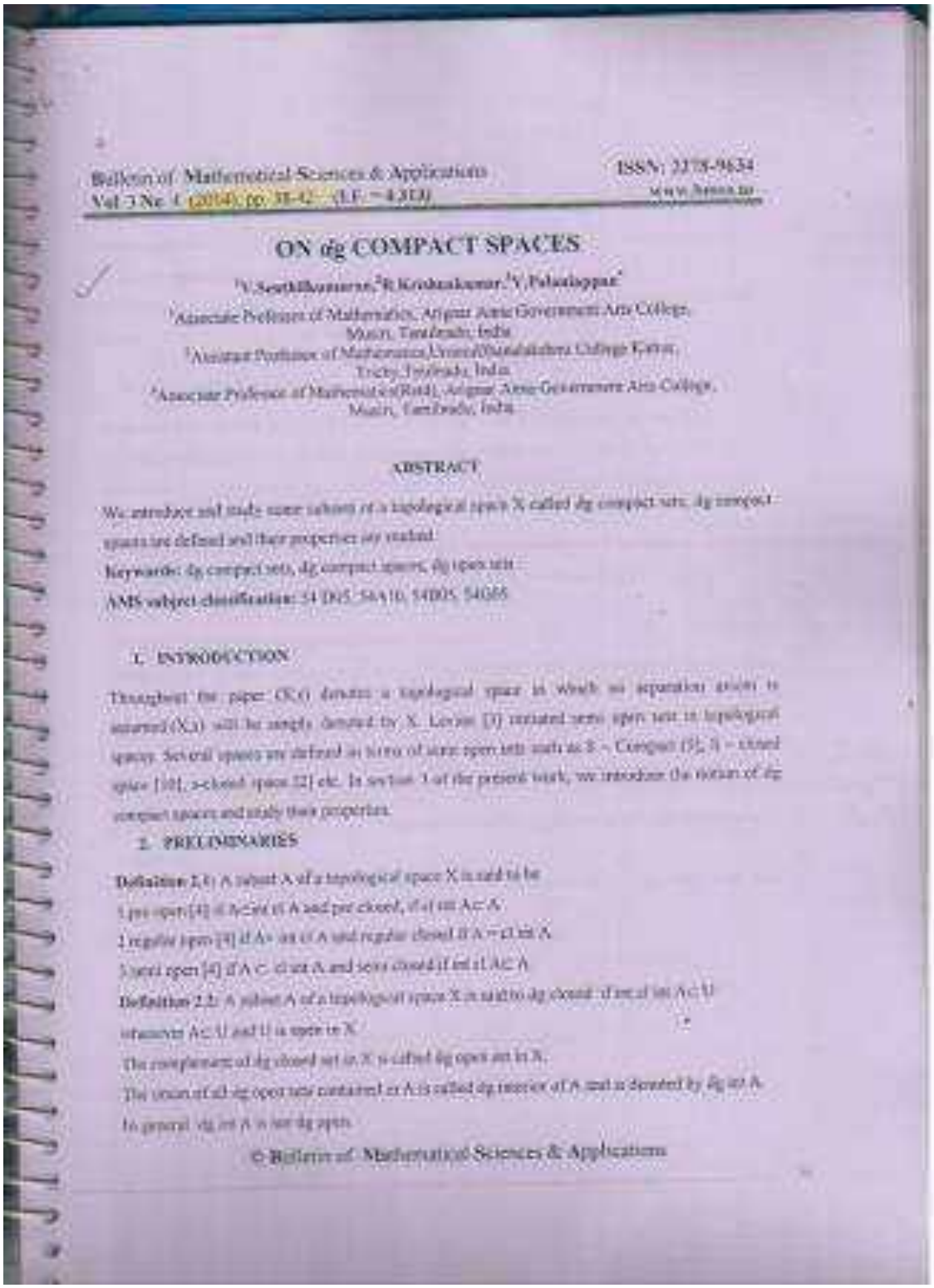
$$d(x, y) = (|x - y|, \alpha|x - y|)$$

Where $\alpha \geq 0$ is a constant. Then (X, d) is a cone metric space.

Definition 1.4: Let (X, d) be cone metric space, $x \in X$ and $\{x_n\}$ a sequence in X. Then

(1) $\{x_n\}$ converges to x whenever for every $c \in E$ with $0 \ll c$ there is a natural number N such that $d(x_n, x) \ll c$ for all $n \geq N$.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Bulletin of Mathematical Sciences & Applications
Vol. 3 No. 1 (2014), pp. 35-42 (I.F. = 4.333)
ISSN: 2278-9634
www.bmsa.in

ON dg COMPACT SPACES

[1]V.Seethalakshmi,[2]R.Krishnakumar,[3]V.Palaniappan[4]

[1]Associate Professor of Mathematics, Arignar Anna Government Arts College, Musiri, Tamilnadu, India.
[2]Assistant Professor of Mathematics, Jamal Mohamed College, Trichy, Tamilnadu, India.
[3]Associate Professor of Mathematics(Retd), Arignar Anna Government Arts College, Musiri, Tamilnadu, India.

ABSTRACT

We introduce and study some subsets of a topological space X called dg compact sets. dg compact spaces are defined and their properties are studied.

Keywords: dg compact sets, dg compact spaces, dg open sets

AMS subject classification: 54 D05, 54A10, 54B05, 54G05

1. INTRODUCTION

Throughout the paper (X,τ) denotes a topological space in which no separation axioms is assumed (X,τ) will be simply denoted by X. Levine [3] initiated semi open sets in topological spaces. Several spaces are defined in terms of semi open sets such as $\tilde{S}$ - Compact [5], $\tilde{S}$ - closed space [10], s-closed space [2] etc. In section 3 of the present work, we introduce the notion of dg compact spaces and study their properties.

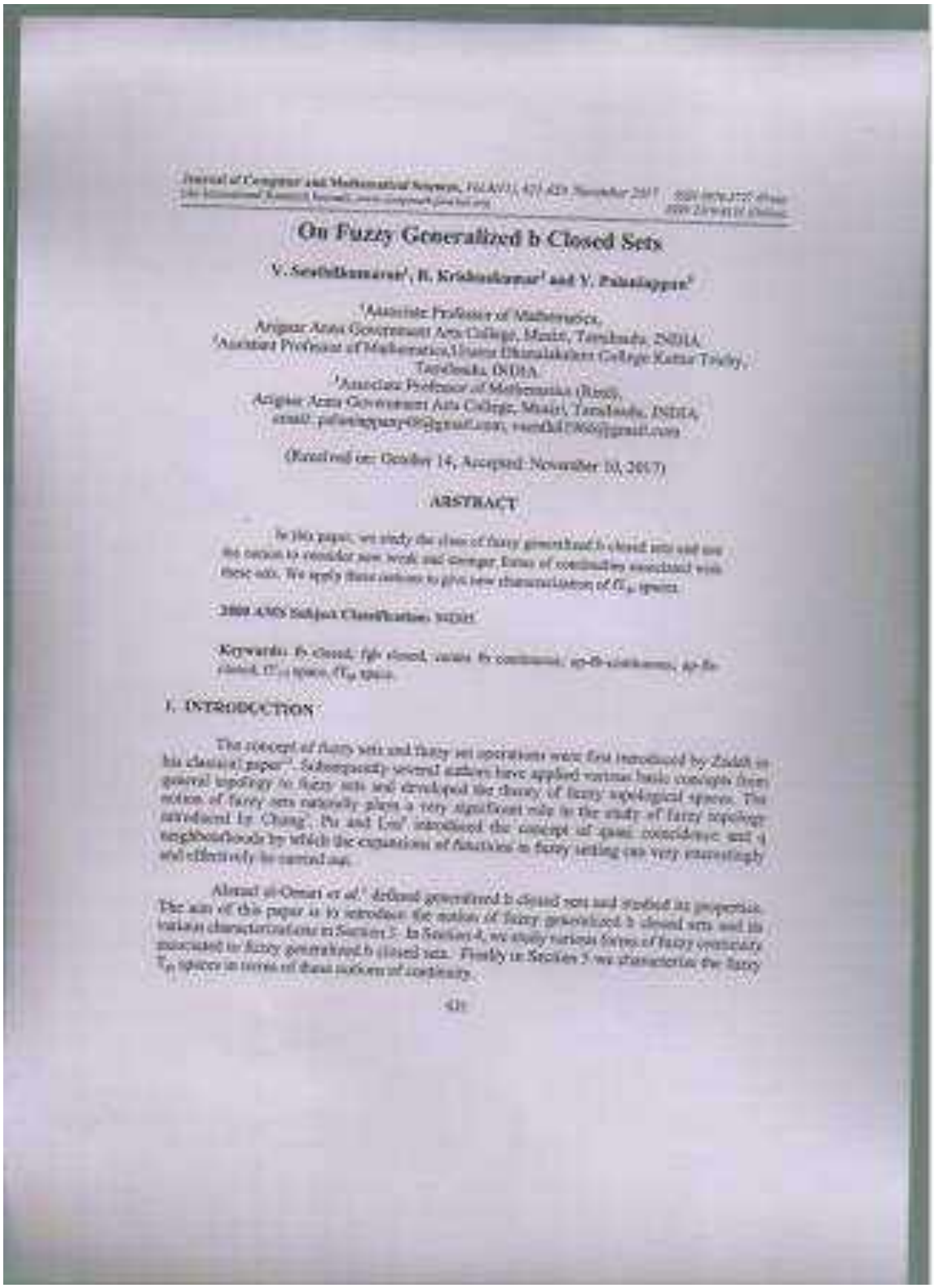
2. PRELIMINARIES

Definition 2.1: A subset A of a topological space X is said to be
1.pre open [4] if $A \subset int\,cl\,A$ and pre closed, if $cl\,int\,A \subset A$
2.regular open [4] if $A = int\,cl\,A$ and regular closed if $A = cl\,int\,A$
3.semi open [4] if $A \subset cl\,int\,A$ and semi closed if $int\,cl\,A \subset A$

Definition 2.2: A subset A of a topological space X is said to dg closed if $cl\,int\,A \subset U$ whenever $A \subset U$ and U is open in X.
The complement of dg closed set in X is called dg open set in X.
The union of all dg open sets contained in A is called dg interior of A and is denoted by dg int A.
In general dg int A is not dg open.

© Bulletin of Mathematical Sciences & Applications

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Computer and Mathematical Sciences, Vol.8(11), 421-426, November 2017 ISSN 0976-5727 (Print)
An International Research Journal, www.compmath-journal.org ISSN 2319-8133 (Online)

On Fuzzy Generalized b Closed Sets

V. Seethalakshmi[1], R. Krishnakumar[2] and V. Palaniappan[3]

[1]Associate Professor of Mathematics,
Arignar Anna Government Arts College, Musiri, Tamilnadu, INDIA.
[2]Assistant Professor of Mathematics,Unnamalai Dhanalakshmi College Kattur Trichy,
Tamilnadu, INDIA.
[3]Associate Professor of Mathematics (Retd),
Arignar Anna Government Arts College, Musiri, Tamilnadu, INDIA.
email: palaniappanv@gmail.com, vsenthil1966@gmail.com

(Received on: October 14, Accepted: November 10, 2017)

ABSTRACT

In this paper, we study the class of fuzzy generalized b closed sets and use the notion to consider new weak and stronger forms of continuities associated with these sets. We apply these notions to give new characterization of $T_{\frac{1}{2}}$ spaces.

2000 AMS Subject Classification: 54D10.

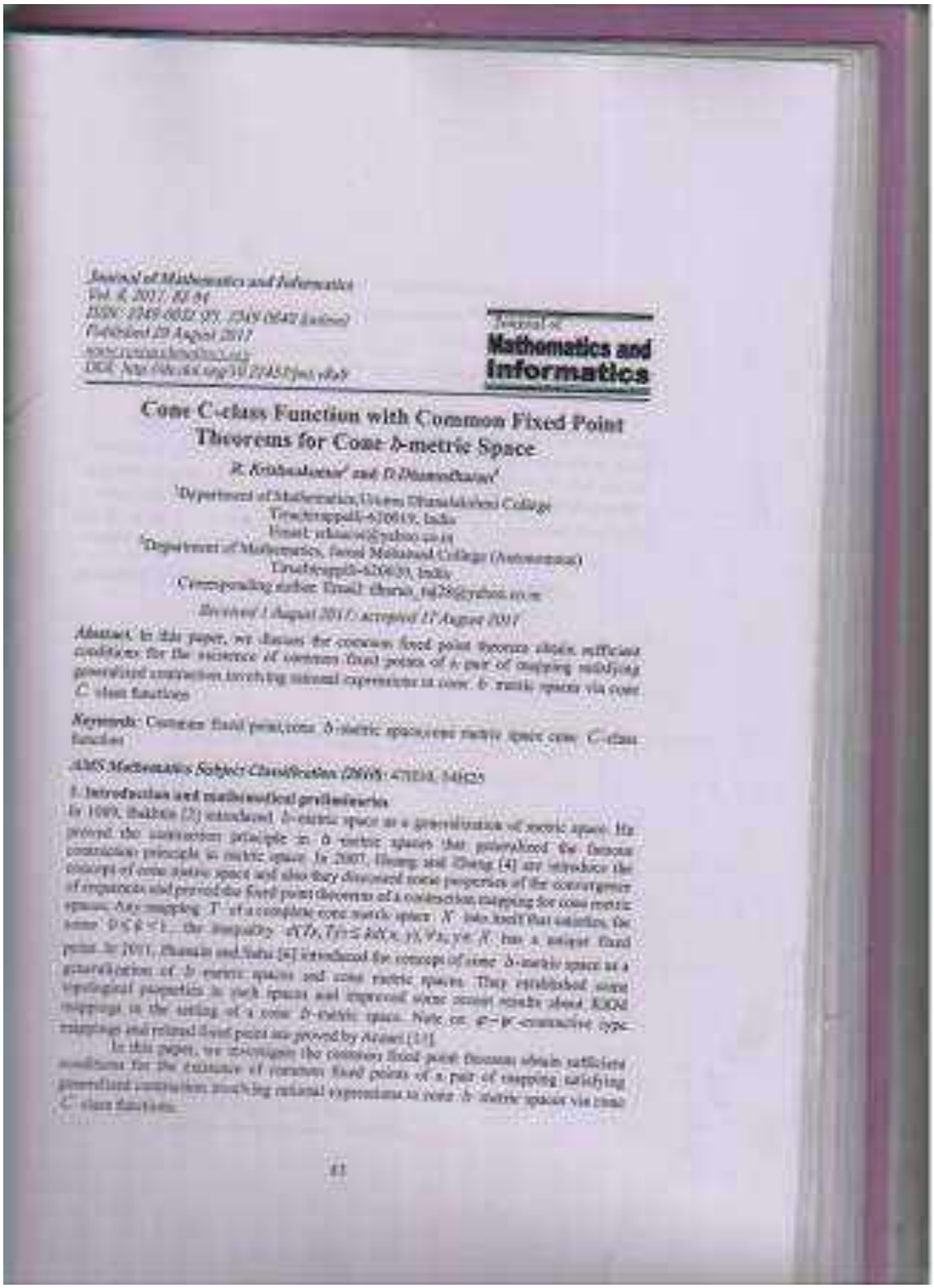
Keywords: fb closed, fgb closed, totally fb continuous, sg-fb-continuous, sg-fb-closed, $T'_{\frac{1}{2}}$ space, $fT_{\frac{1}{2}}$ space.

1. INTRODUCTION

The concept of fuzzy sets and fuzzy set operations were first introduced by Zadeh in his classical paper[7]. Subsequently several authors have applied various basic concepts from general topology to fuzzy sets and developed the theory of fuzzy topological spaces. The notion of fuzzy sets naturally plays a very significant role in the study of fuzzy topology introduced by Chang[1]. Pu and Liu[6] introduced the concept of quasi coincidence and q neighborhoods by which the expansions of functions in fuzzy setting can very interestingly and effectively be carried out.

Ahmad al-Omari *et al.*[3] defined generalized b closed sets and studied its properties. The aim of this paper is to introduce the notion of fuzzy generalized b closed sets and its various characterizations in Section 3. In Section 4, we study various forms of fuzzy continuity associated to fuzzy generalized b closed sets. Finally in Section 5 we characterize the fuzzy $T_{\frac{1}{2}}$ spaces in terms of these notions of continuity.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Mathematics and Informatics
Vol. 8, 2017, 81-94
ISSN: 2349-0632 (P), 2349-0640 (online)
Published 29 August 2017
www.researchmathsci.org
DOI: http://dx.doi.org/10.22457/jmi.v8a9

Journal of
Mathematics and Informatics

Cone C-class Function with Common Fixed Point Theorems for Cone b-metric Space

R. Krishnakumar[1] *and D. Dhamodharan*[2]

[1]Department of Mathematics, Urumu Dhanalakshmi College
Tiruchirappalli-620019, India
Email: rkhanu@yahoo.co.in
[2]Department of Mathematics, Jamal Mohamed College (Autonomous)
Tiruchirappalli-620020, India
Corresponding author. Email: dhamu_raj28@yahoo.co.in

Received 1 August 2017; accepted 11 August 2017

Abstract. In this paper, we discuss the common fixed point theorem obtain sufficient conditions for the existence of common fixed points of a pair of mapping satisfying generalized contraction involving rational expressions in cone b- metric spaces via cone C- class functions

Keywords: Common fixed point,cone b-metric space,cone metric space cone C-class function

AMS Mathematics Subject Classification (2010): 47H10, 54H25

1. Introduction and mathematical preliminaries

In 1989, Bakhtin [2] introduced b-metric space as a generalization of metric space. He proved the contraction principle in b metric spaces that generalized the famous contraction principle in metric space. In 2007, Huang and Zhang [4] are introduce the concept of cone metric space and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contraction mapping for cone metric spaces. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \le k < 1$, the inequality $d(Tx, Ty) \le kd(x, y), \forall x, y \in X$ has a unique fixed point. In 2011, Shatanawi and Sabri [8] introduced the concept of cone b-metric space as a generalization of b metric spaces and cone metric spaces. They established some topological properties in such spaces and improved some recent results about KKM mappings in the setting of a cone b-metric space. Note on $\psi-\psi$ -contractive type mappings and related fixed point are proved by Arslan [1].

In this paper, we investigate the common fixed point theorem obtain sufficient conditions for the existence of common fixed points of a pair of mapping satisfying generalized contraction involving rational expressions in cone b- metric spaces via cone C- class functions.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN(Online) : 2319-8753
ISSN (Print) : 2347-6710

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 7, July 2016

On Two Complete Metric Spaces

Dr.K.Krishnakumar [1], P.Pankaja Malini Bagavi [2], S.Anbalka [3]

Professor and Head, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [1]

Assistant Professor, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [2]

M.Phil. Student, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [3]

ABSTRACT: We prove common fixed point theorems for a pair of contractive mappings in two complete metric linear spaces. The presented results extend some known existence results from the literature.

KEYWORDS: Fixed point, contractive mapping, Non-expansive, complete metric spaces

I. INTRODUCTION

Fixed point theorems are broadly studied for three classes of mappings namely continuous, contractive and non-expansive mappings. And fixed point theory has generally developed in three main directions: generalization of conditions which ensure existence, and, if possible, uniqueness of fixed points. Some fixed point theorems in complete metric spaces have studied by L.B.Ciric et al.[5], V.Popa [9], B.K.Nandkeo, et al.[6]. In this paper, the generalization is given on two complete metric spaces.

II. PRELIMINARIES

Definition 2.1: Let X is any non-empty set. A metric on X is a real valued function $d: X \times X \to R$ which satisfies the following conditions: for all $x, y \in X$,

(i) $d(x,y) \geq 0$;
(ii) $d(x,y)=0$ iff $x=y$;
(iii) $d(x,y)=d(y,x)$;
(iv) $d(x,z) \leq d(x,y)+d(y,z)$.

A metric space is a non-empty set X equipped with a metric d on X and is denoted by (X,d).

Example 2.2: The set R of real numbers with the distance function $d(x,y)=|x-y|$ is a metric space.

Example 2.3: Every normed linear space is a metric space under the metric $d(x, y)=\|x-y\|$.

Definition 2.4: A sequence $\{x_n\}$ of a metric space (X, d) is said to be

(i) Convergent to a point $x \in X$ if $\lim_{n\to\infty} d(x_n, x) = 0$.
(ii) Cauchy sequence if $\lim_{n,m\to\infty} d(x_n, x_m) = 0$.

Definition 2.5: A metric space (X, d) is said to be complete if every Cauchy sequence in (X, d) is convergent in X.

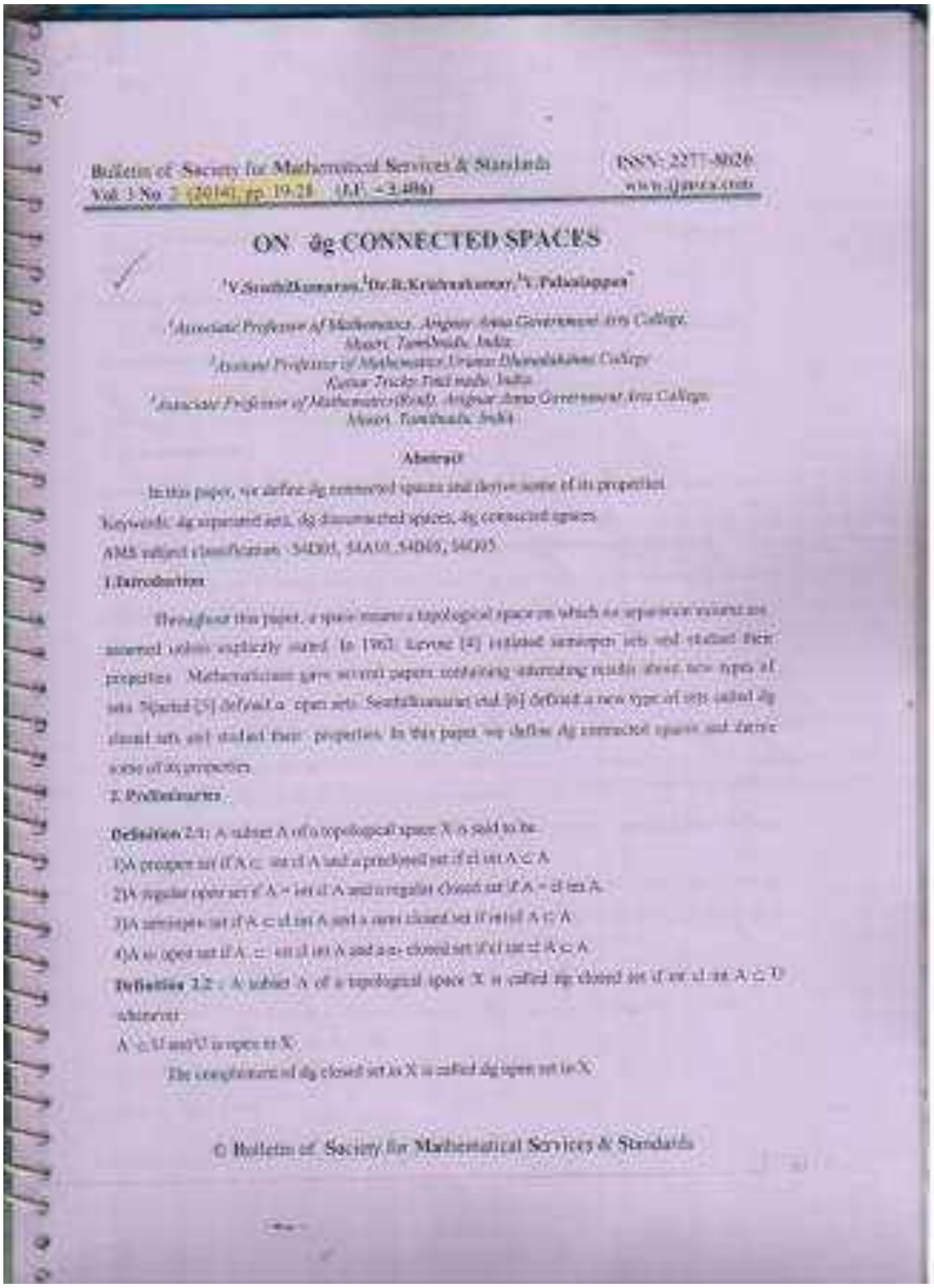
The following theorems were proved by B.Fisher [4].

Theorem 2.6: Let (X,d) and (Y,ρ) be complete metric spaces. If $T: X \to Y$ and $S: Y \to X$ satisfying the inequalities

$$\rho(Tx,TSy) \leq c \max\{d(x,Sy), d(x,Tx), d(Sy,TSy)\}$$
$$d(Sy,ST x) \leq c \max\{\rho(y,Tx), \rho(y,Sy), \rho(x,ST x)\}$$

Copyright to IJIRSET

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Bulletin of Society for Mathematical Services & Standards
Vol. 3 No. 2 (2014), pp. 19-28 (I.F. = 2.486)
ISSN: 2277-8020
www.ijpcsa.com

ON ĝg-CONNECTED SPACES

[1]V.Senthilkumaran, [2]Dr.R.Krishnakumar, [3]V.Palaniappan

[1]Associate Professor of Mathematics, Arignar Anna Government Arts College,
Musiri, TamilNadu, India.
[2]Assistant Professor of Mathematics, Urumu Dhanalakshmi College,
Kattur, Trichy, Tamil nadu, India.
[3]Associate Professor of Mathematics(Retd), Arignar Anna Government Arts College,
Musiri, Tamilnadu, India.

Abstract

In this paper, we define ĝg-connected spaces and derive some of its properties.

Keywords: ĝg-separated sets, ĝg-disconnected spaces, ĝg-connected spaces.

AMS subject classification: 54D05, 54A05, 54D05, 54G05.

1.Introduction

Throughout this paper, a space means a topological space on which no separation axioms are assumed unless explicitly stated. In 1963, Levine [4] initiated semiopen sets and studied their properties. Mathematicians gave several papers containing interesting results about new types of sets. Njastad [5] defined α - open sets. Senthilkumaran and [6] defined a new type of sets called ĝg closed sets and studied their properties. In this paper we define ĝg connected spaces and derive some of its properties.

2. Preliminaries

Definition 2.1: A subset A of a topological space X is said to be

1)A proper set if $A \subset int\,cl\,A$ and a preclosed set if $cl\,int\,A \subset A$.

2)A regular open set if $A = int\,cl\,A$ and a regular closed set if $A = cl\,int\,A$.

3)A semiopen set if $A \subset cl\,int\,A$ and a semi closed set if $int\,cl\,A \subset A$.

4)A α- open set if $A \subset int\,cl\,int\,A$ and a α- closed set if $cl\,int\,cl\,A \subset A$.

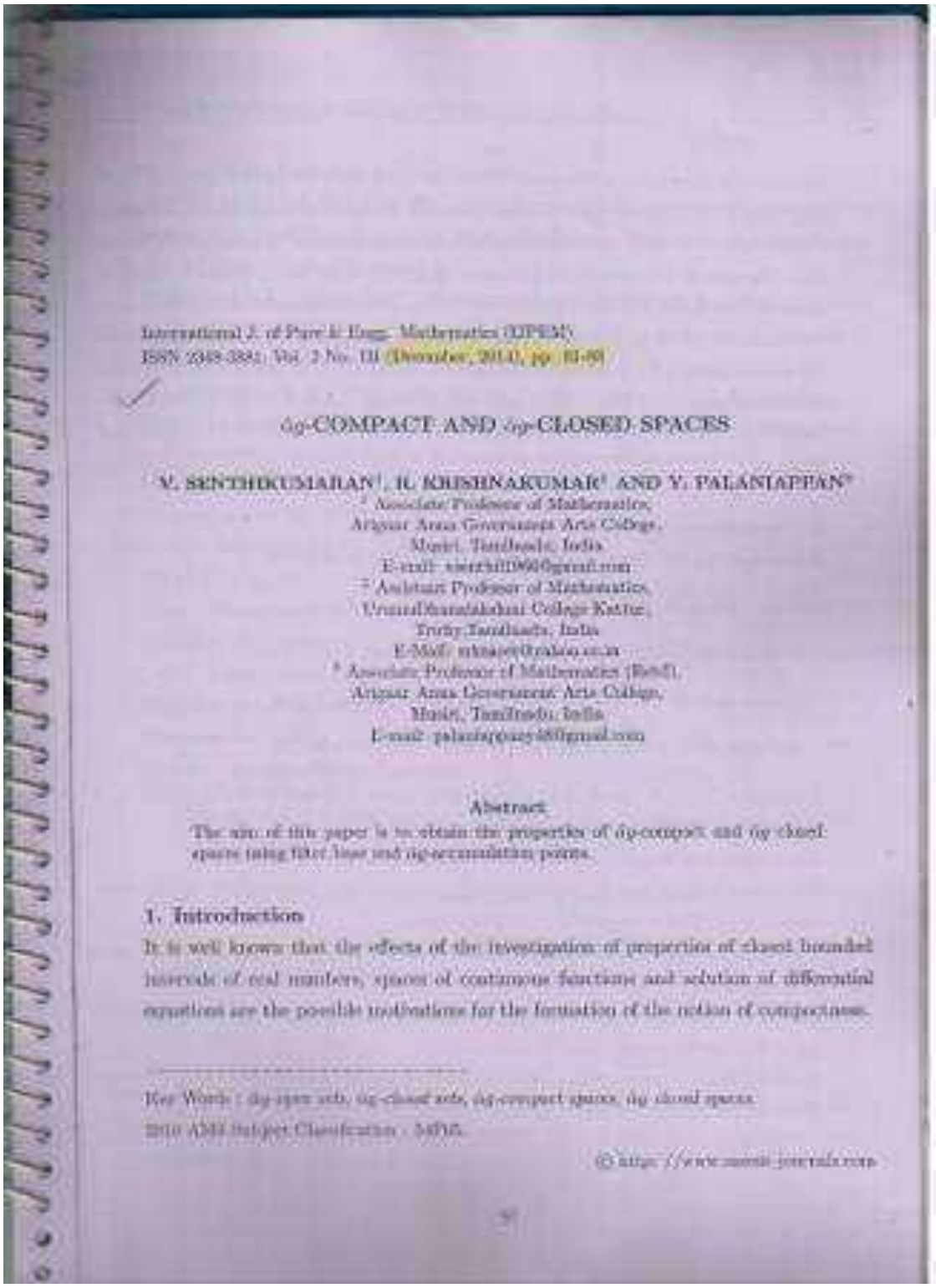
Definition 2.2 : A subset A of a topological space X is called ĝg closed set if $int\,cl\,int\,A \subset U$ whenever

$A \subset U$ and U is open in X.

The complement of ĝg closed set in X is called ĝg open set in X.

© Bulletin of Society for Mathematical Services & Standards

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Pure & Engg. Mathematics (IJPEM)
ISSN 2348-3881; Vol. 2 No. III (December, 2014), pp. 81-89

δg-COMPACT AND δg-CLOSED SPACES

V. SENTHILKUMARAN[1], R. KRISHNAKUMAR[2] AND V. PALANIAPPAN[3]

[1] Associate Professor of Mathematics,
Arignar Anna Government Arts College,
Musiri, Tamilnadu, India
E-mail: senthil0960@gmail.com
[2] Assistant Professor of Mathematics,
Urumudhanatakshini College Kattur,
Trichy,Tamilnadu, India
E-Mail: rkmaths@yahoo.co.in
[3] Associate Professor of Mathematics (Retd),
Arignar Anna Government Arts College,
Musiri, Tamilnadu, India
E-mail: palaniappan.v.1@gmail.com

Abstract

The aim of this paper is to obtain the properties of δg-compact and δg closed spaces using filter base and δg-accumulation points.

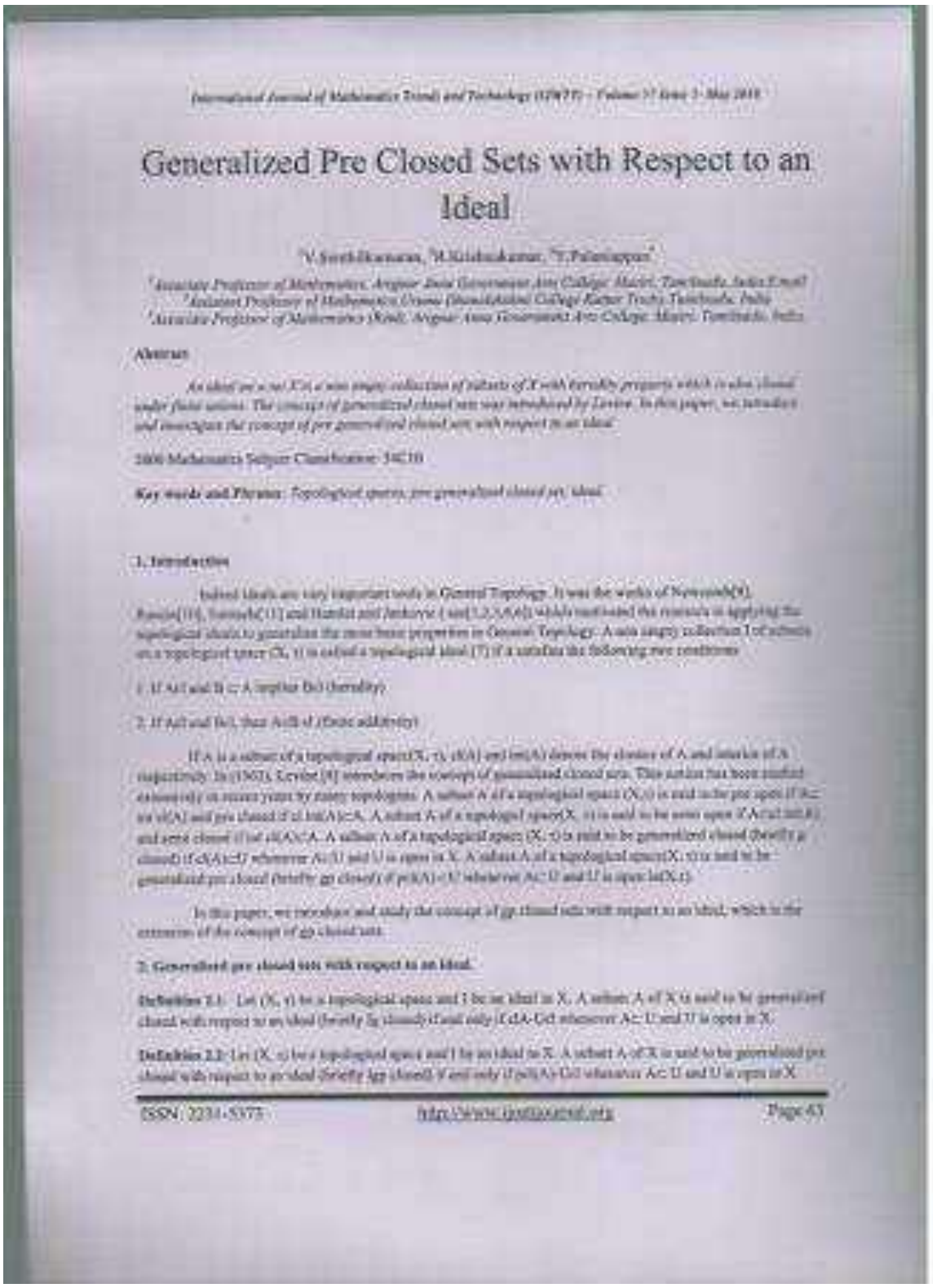
1. Introduction

It is well known that the effects of the investigation of properties of closed bounded intervals of real numbers, spaces of continuous functions and solutions of differential equations are the possible motivations for the formation of the notion of compactness.

Key Words : δg-open sets, δg-closed sets, δg-compact spaces, δg closed spaces.
2010 AMS Subject Classification : 54D05.

© http://www.ascent-journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics Trends and Technology (IJMTT) – Volume 37 Issue 3 - May 2016

Generalized Pre Closed Sets with Respect to an Ideal

[1]V.Seethalakshmi, [2]M.Krishnakumar, [3]T.Palaniappan[4]

[1]Associate Professor of Mathematics, Arignar Anna Government Arts College, Musiri, Tamilnadu, India Email
[2]Assistant Professor of Mathematics, Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India
[3]Associate Professor of Mathematics (Retd), Arignar Anna Government Arts College, Musiri, Tamilnadu, India

Abstract

An ideal on a set X is a non empty collection of subsets of X with heredity property which is also closed under finite unions. The concept of generalized closed sets was introduced by Levine. In this paper, we introduce and investigate the concept of pre generalized closed sets with respect to an ideal.

2000 Mathematics Subject Classification: 54C10

Key words and Phrases: *Topological spaces, pre generalized closed set, ideal.*

1. Introduction

Ideal ideals are very important tools in General Topology. It was the works of Newcomb[9], Rancin[10], Vaisashi[11] and Hamlett and Jankovic (see[3,5,6,8]) which motivated the research in applying the topological ideals to generalize the most basic properties in General Topology. A non empty collection I of subsets on a topological space (X, τ) is called a topological ideal [7] if a satisfies the following two conditions

1. If A∈I and B ⊂ A implies B∈I (heredity)

2. If A∈I and B∈I, then A∪B ∈I (finite additivity)

If A is a subset of a topological space(X, τ), cl(A) and int(A) denote the closure of A and interior of A respectively. In (1963), Levine [8] introduces the concept of generalized closed sets. This notion has been studied extensively in recent years by many topologists. A subset A of a topological space (X,τ) is said to be pre open if A⊂ int cl(A) and pre closed if cl int(A)⊂A. A subset A of a topological space(X, τ) is said to be semi open if A⊂cl int(A) and semi closed if int cl(A)⊂A. A subset A of a topological space (X, τ) is said to be generalized closed (briefly g closed) if cl(A)⊂U whenever A⊂ U and U is open in X. A subset A of a topological space(X, τ) is said to be generalized pre closed (briefly gp closed) if pcl(A) ⊂ U whenever A⊂ U and U is open in(X,τ).

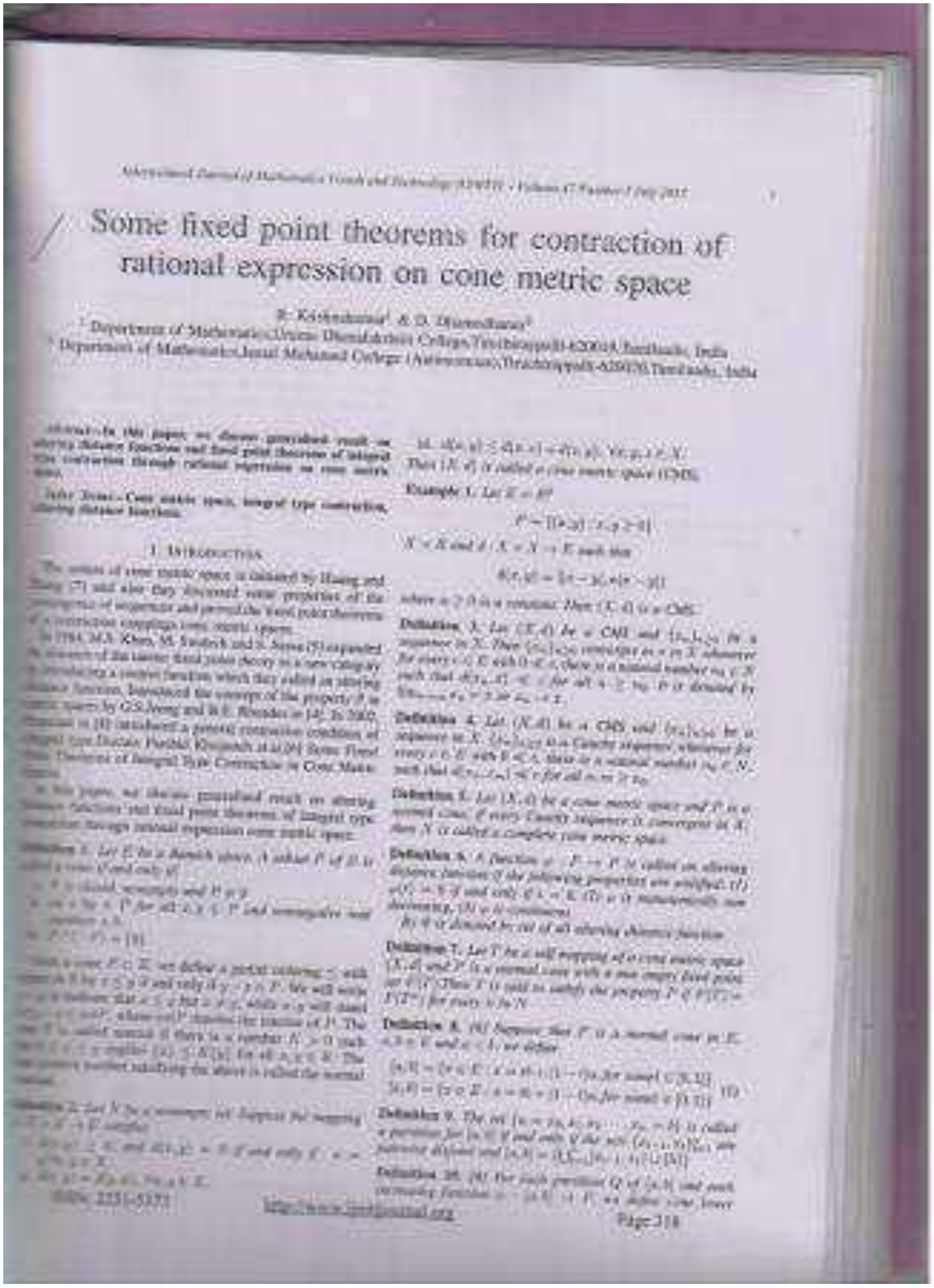
In this paper, we introduce and study the concept of gp closed sets with respect to an ideal, which is the extension of the concept of gp closed sets.

2. Generalized pre closed sets with respect to an ideal.

Definition 2.1: Let (X, τ) be a topological space and I be an ideal in X. A subset A of X is said to be generalized closed with respect to an ideal (briefly Ig closed) if and only if cl(A)-G∈I whenever A⊂ U and U is open in X.

Definition 2.2: Let (X, τ) be a topological space and I be an ideal in X. A subset A of X is said to be generalized pre closed with respect to an ideal (briefly Igp closed) if and only if pcl(A)-G∈I whenever A⊂ U and U is open in X.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics Trends and Technology (IJMTT) - Volume 47 Number 1 July 2017

Some fixed point theorems for contraction of rational expression on cone metric space

R. Krishnakumar[1] & D. Dhamodharan[2]

[1] Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli-620019, Tamilnadu, India.
[2] Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli-620020, Tamilnadu, India.

Abstract—In this paper, we discuss generalized result on allowing distance function and fixed point theorems of integral type contraction through rational expression on cone metric space.

Index Terms—Cone metric space, integral type contraction, allowing distance functions.

I. INTRODUCTION

The notion of cone metric space is initiated by Huang and Zhang [7] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contraction mappings over metric spaces.

In 1984, M.S. Khan, M. Swaleh and S. Sessa [5] expanded the research of the famous fixed point theory to a new category of mappings by a control function which they called as altering distance function. Introduced the concept of the property P in metric spaces by G.S.Jeong and B.E. Rhoades in [4]. In 2002, Branciari in [3] introduced a general contraction condition of integral type. Dorđije Ilić, Vladimir Pavlović, Vladimir Rakočević et al.[6] Some Fixed Point Theorems of Integral Type Contraction in Cone Metric Spaces.

In this paper, we discuss generalized result on altering distance functions and fixed point theorems of integral type contraction through rational expression cone metric space.

Definition 1. *Let E be a Banach space. A subset P of E is called a cone if and only if*

a) P is closed, nonempty and $P \neq \{\theta\}$

b) $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b.

c) $P \cap (-P) = \{\theta\}$.

Given a cone $P \subset E$, we define a partial ordering $\leq$ with respect to P by $x \leq y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \leq y$ but $x \neq y$, while $x \ll y$ will indicate that $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that for all $x, y \in E$, $0 \leq x \leq y$ implies $\|x\| \leq K\|y\|$. For all $x, y \in E$. The least positive number satisfying the above is called the normal constant.

Definition 2. *Let X be a nonempty set. Suppose the mapping $d : X \times X \to E$ satisfies*

a) $\theta \leq d(x, y)$ for all $x, y \in X$ and $d(x, y) = \theta$ if and only if $x = y$.

b) $d(x, y) = d(y, x)$ for all $x, y \in X$.

c) $d(x, y) \leq d(x, z) + d(z, y)$ for all $x, y, z \in X$.

Then (X, d) is called a cone metric space (CMS).

Example 1. *Let $E = \mathbb{R}^2$*

$$P = \{(x, y) : x, y \geq 0\}$$

$X = E$ and $d : X \times X \to E$ such that

$$d(x, y) = \|x - y\|, a(x - y)$$

where $a \geq 0$ is a constant. Then (X, d) is a CMS.

Definition 3. *Let (X, d) be a CMS and $\{x_n\}_{n \geq 0}$ be a sequence in X. Then $\{x_n\}_{n \geq 0}$ converges to $x \in X$ whenever for every $c \in E$ with $\theta \ll c$, there is a natural number $n_0 \in N$ such that $d(x_n, x) \ll c$ for all $n \geq n_0$. It is denoted by $\lim_{n \to \infty} x_n = x$ or $x_n \to x$.*

Definition 4. *Let (X, d) be a CMS and $\{x_n\}_{n \geq 0}$ be a sequence in X. $\{x_n\}_{n \geq 0}$ is a Cauchy sequence whenever for every $c \in E$ with $\theta \ll c$, there is a natural number $n_0 \in N$ such that $d(x_n, x_m) \ll c$ for all $n, m \geq n_0$.*

Definition 5. *Let (X, d) be a cone metric space and P is a normal cone. If every Cauchy sequence is convergent in X, then X is called a complete cone metric space.*

Definition 6. *A function $\psi : P \to P$ is called an altering distance function if the following properties are satisfied. (1) $\psi(t) = 0$ if and only if $t = 0$. (2) ψ is monotonically non decreasing. (3) ψ is continuous.*

β is denoted by the set of all altering distance function.

Definition 7. *Let T be a self mapping of a cone metric space (X, d) and P is a normal cone with a non empty fixed point set $F(T)$. Then T is said to satisfy the property P if $F(T) = F(T^n)$ for every $n \in N$.*

Definition 8. *(a) Suppose that P is a normal cone in E, $a, b \in E$ and $a < b$, we define*

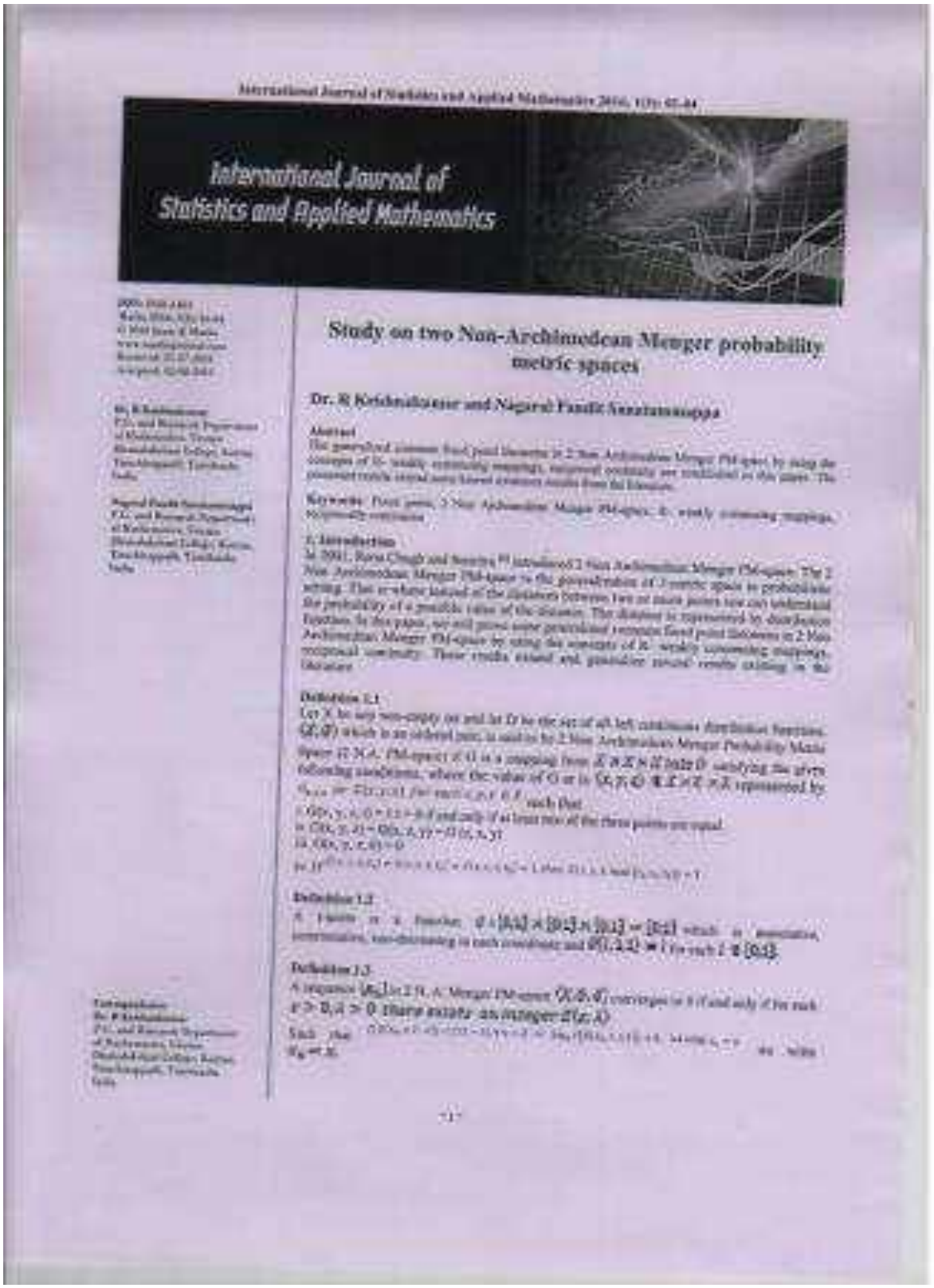
$$[a, b] = \{x \in E : a \ll x, (1 - t)a + tb \text{ for some } t \in [0, 1]\}$$
$$[a, b) = \{x \in E : a \ll x, (1 - t)a + tb \text{ for some } t \in [0, 1)\} \quad (1)$$

Definition 9. *The set $\{a = x_0, x_1, x_2, \ldots, x_n = b\}$ is called a partition for $[a, b]$ if and only if the sets $\{x_{i-1}, x_i\}_{i=1}^{n}$ are pairwise disjoint and $[a, b] = [x_0, x_1] \cup [x_1, x_2] \cup \ldots \cup [x_{n-1}, x_n]$.*

Definition 10. *(a) For each partition Q of $[a, b]$ and each increasing function $\psi : [a, b] \to E$, we define a new lower*

ISSN: 2231-5373 http://www.ijmttjournal.org

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Statistics and Applied Mathematics

International Journal of Statistics and Applied Mathematics

Study on two Non-Archimedean Menger probability metric spaces

Dr. R Krishnakumar and Nagoor Pandit Anantamuthu

Abstract

The generalized common fixed point theorems in 2-Non Archimedean Menger PM-space by using the concepts of R- weakly commuting mappings, reciprocal continuity are established in this paper. The presented results extend some known theorems existing from the literature.

Keywords: Fixed point, 2-Non Archimedean Menger PM-space, R- weakly commuting mappings, Reciprocally continuous

1. Introduction

In 2001, Rama Chugh and Sunita Pl introduced 2-Non Archimedean Menger PM-space. The 2-Non Archimedean Menger PM-space is the generalization of 2-metric space in probabilistic setting. The real value instead of the distances between two or more points now can understand the probability of a possible value of the distance. The distance is represented by distribution function. In this paper, we will prove some generalized common fixed point theorems in 2-Non Archimedean Menger PM-space by using the concepts of R- weakly commuting mappings, reciprocal continuity. These results extend and generalize several results existing in the literature.

Definition 1.1

Let X be any non-empty set and let D be the set of all left continuous distribution functions. (X, F) which is an ordered pair, is said to be 2-Non Archimedean Menger Probability Metric Space if $X \times X$, PM-space F is a mapping from $X \times X \times X$ into D satisfying the given following conditions, where the value of G at $(x, y, z) \in X \times X \times X$ represented by $G_{x,y,z}$ or $F(x, y, z)$ for each $t, s \in R$ each t and

i. $G(x, y, z, t) = 1$ for all $t > 0$ if and only if at least two of the three points are equal.

ii. $G(x, y, z) = G(x, z, y) = G(y, x, z)$

iii. $G(x, y, z, s) = 0$

iv. If $G(x, y, z, s) = 1$, $G(x, y, z, t) = 1$ then $G(x, y, z, s + t) = 1$

Definition 1.2

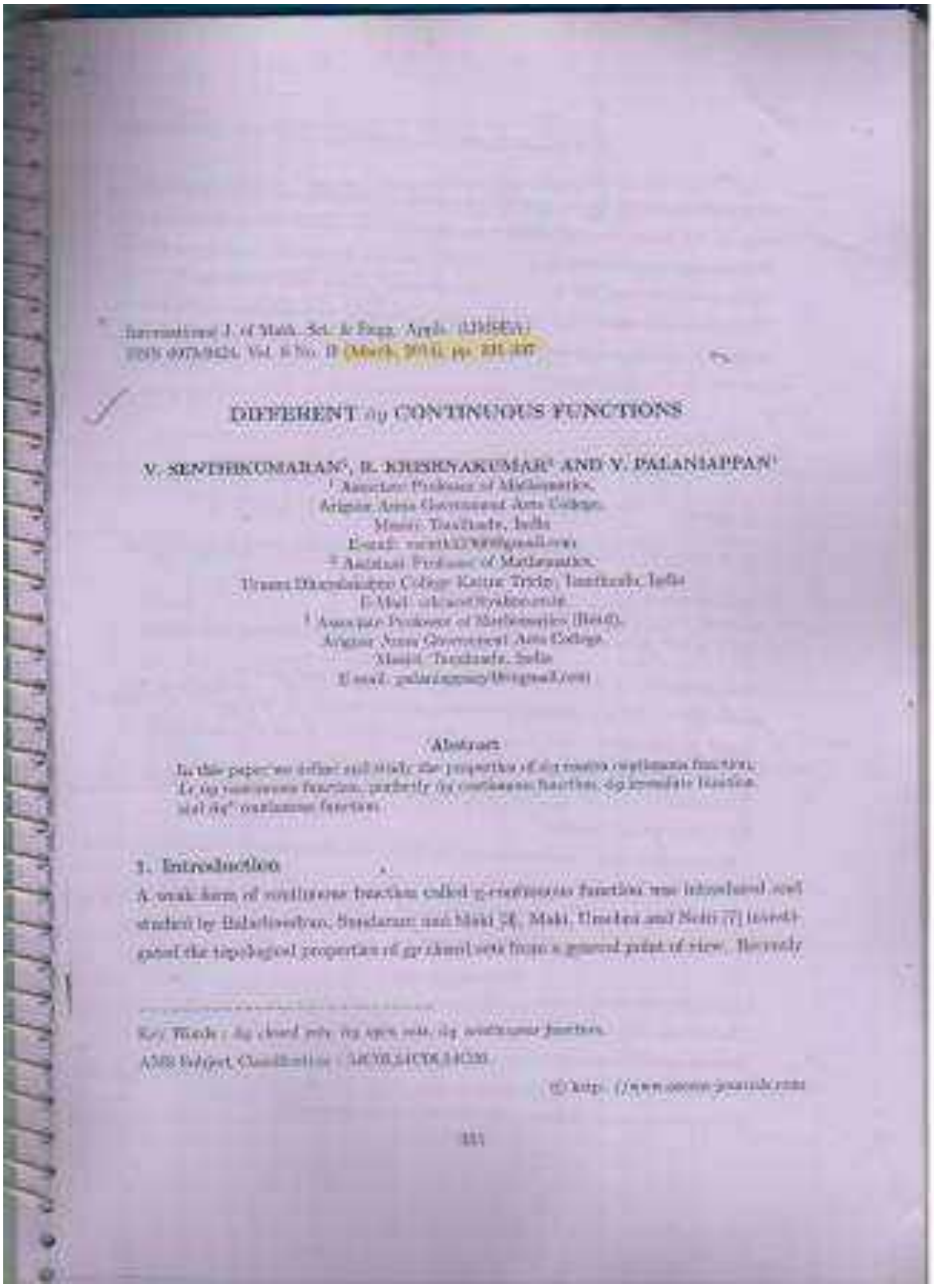
A function $\alpha : [0,1] \times [0,1] \to [0,1]$ which is associative, commutative, non-decreasing in each coordinate and $\alpha(1,1) = 1$ for each $t \in [0,1]$.

Definition 1.3

A sequence $\{x_n\}$ in 2-Non Archimedean Menger PM-space (X, G, α) converges to x if and only if for each $\varepsilon > 0, \lambda > 0$ there exists an integer $N(\varepsilon, \lambda)$ such that $G(x_n, x, \varepsilon) > 1 - \lambda$ for all $n \geq N$. Write $x_n \to x$.

Correspondence
Dr. R Krishnakumar
P.G. and Research Department of Mathematics, Thiruvalluvar College, Kovilpatti, Thoothukudi, India

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 8 No. II (March, 2014), pp. 331-337

DIFFERENT αg CONTINUOUS FUNCTIONS

V. SENTHILKUMARAN[1], R. KRISHNAKUMAR[2] AND V. PALANIAPPAN[3]
[1] Associate Professor of Mathematics,
Arignar Anna Government Arts College,
Musiri, Tiruchirappalli, India
E-mail: [illegible]
[2] Assistant Professor of Mathematics,
Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India
E-Mail: [illegible]
[3] Associate Professor of Mathematics (Retd.),
Arignar Anna Government Arts College,
Musiri, Tiruchirappalli, India
E-mail: palaniappan_vl@gmail.com

Abstract

In this paper we define and study the properties of αg-continuous functions, αg-irresolute functions, perfectly αg-continuous functions, αg-irresolute functions, αg^*-continuous functions.

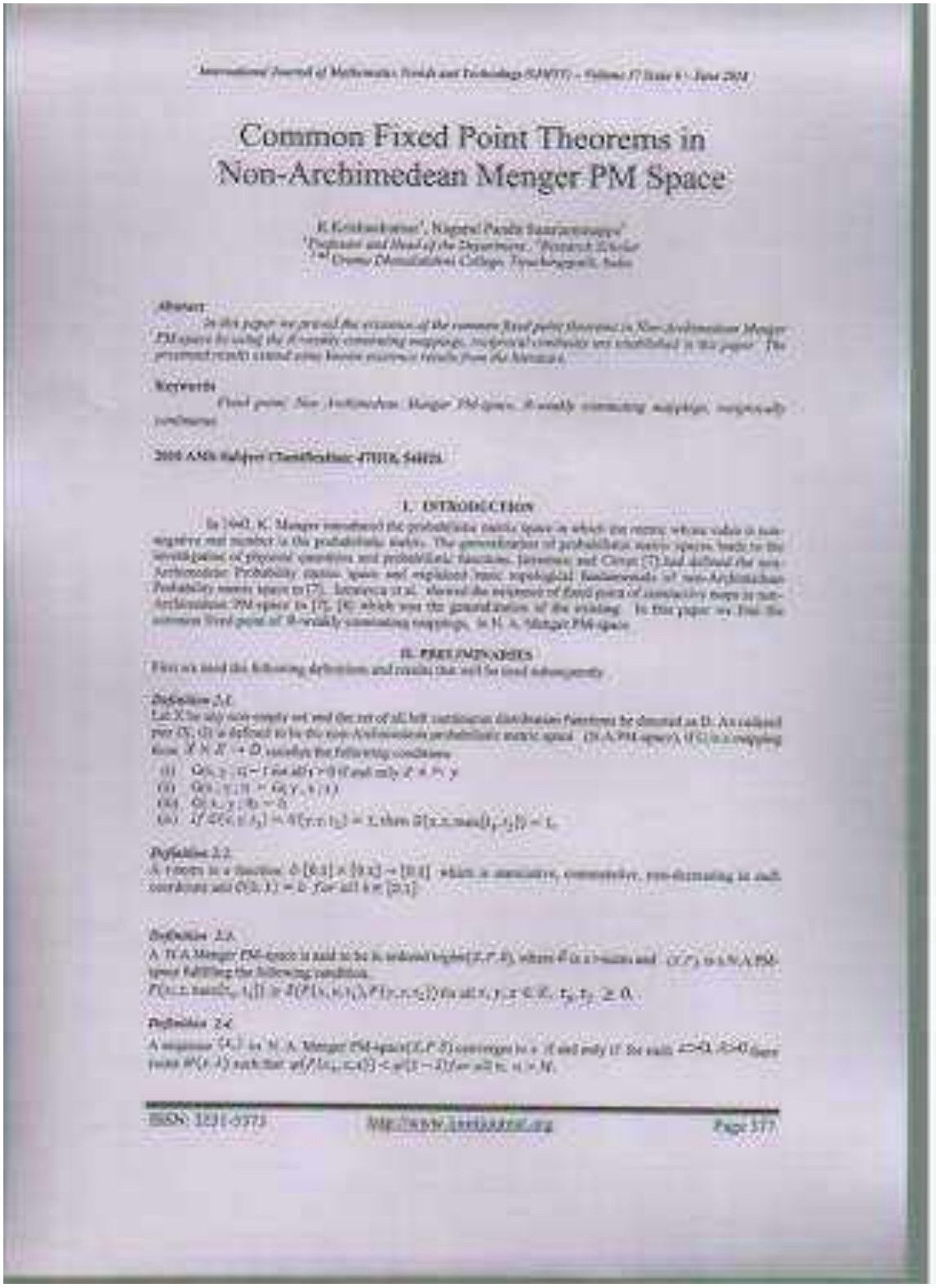
1. Introduction

A weak form of continuous function called g-continuous function was introduced and studied by Balachandran, Sundaram and Maki [2]. Maki, Umehara and Noiri [7] investigated the topological properties of g-closed sets from a general point of view. Recently

Key Words: αg-closed sets, αg-open sets, αg-continuous functions.
AMS Subject Classification: 54C08, 54C05, 54C10.

© http://www.ascent-journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics Trends and Technology (IJMTT) – Volume 37 Issue 6 – June 2016

Common Fixed Point Theorems in Non-Archimedean Menger PM Space

K.Krishnakumar[1], Nagaraj Panda Sanyasiraju[2]
[1]Professor and Head of the Department, [2]Research Scholar
[1,2] Urumu Dhanalakshmi College, Tiruchirappalli, India

Abstract

In this paper we proved the existence of the common fixed point theorems in Non-Archimedean Menger PM space by using the R-weakly commuting mappings. Reciprocal continuity was established in this paper. The presented result extend some known recurrence results from the literature.

Keywords

Fixed point, Non Archimedean Menger PM-space, R-weakly commuting mappings, reciprocally continuous.

2010 AMS Subject Classification: 47H10, 54H25.

I. INTRODUCTION

In 1942, K. Menger introduced the probabilistic metric space in which the metric whose value is non-negative real number is the probabilistic notion. The generalization of probabilistic metric spaces leads to the investigation of physical constants and probabilistic functions. Istratescu and Ciorgi [7] had defined the non-Archimedean Probability metric space and explained basic topological fundamentals of non-Archimedean Probability metric space in [7]. Istratescu et al. showed the existence of fixed point of contractive maps in non-Archimedean PM-space in [7], [8] which was the generalization of the existing. In this paper we find the common fixed point of R-weakly commuting mappings in N. A. Menger PM-space.

II. PRELIMINARIES

First we need the following definitions and results that will be used subsequently.

Definition 2.1

Let X be any non-empty set and the set of all left continuous distribution functions be denoted as D. A mapping $F: X \times X \to D$ is called a non-Archimedean probabilistic metric space (N.A.PM-space), if $F(x,y)$ is a mapping from $X \times X$ to D, satisfies the following conditions

(i) $F(x,y) = \varepsilon_0$ for all $t > 0$ if and only if $x = y$

(ii) $F(x,y)(t) = F(y,x)(t)$

(iii) $F(x,y)(0) = 0$

(iv) If $F(x,z)(t_1) = 1$, $F(z,y)(t_2) = 1$, then $F(x,y)(\max\{t_1,t_2\}) = 1$.

Definition 2.2

A t-norm is a function $\delta : [0,1] \times [0,1] \to [0,1]$ which is associative, commutative, non-decreasing in each coordinate and $\delta(a,1) = a$ for all $a \in [0,1]$.

Definition 2.3

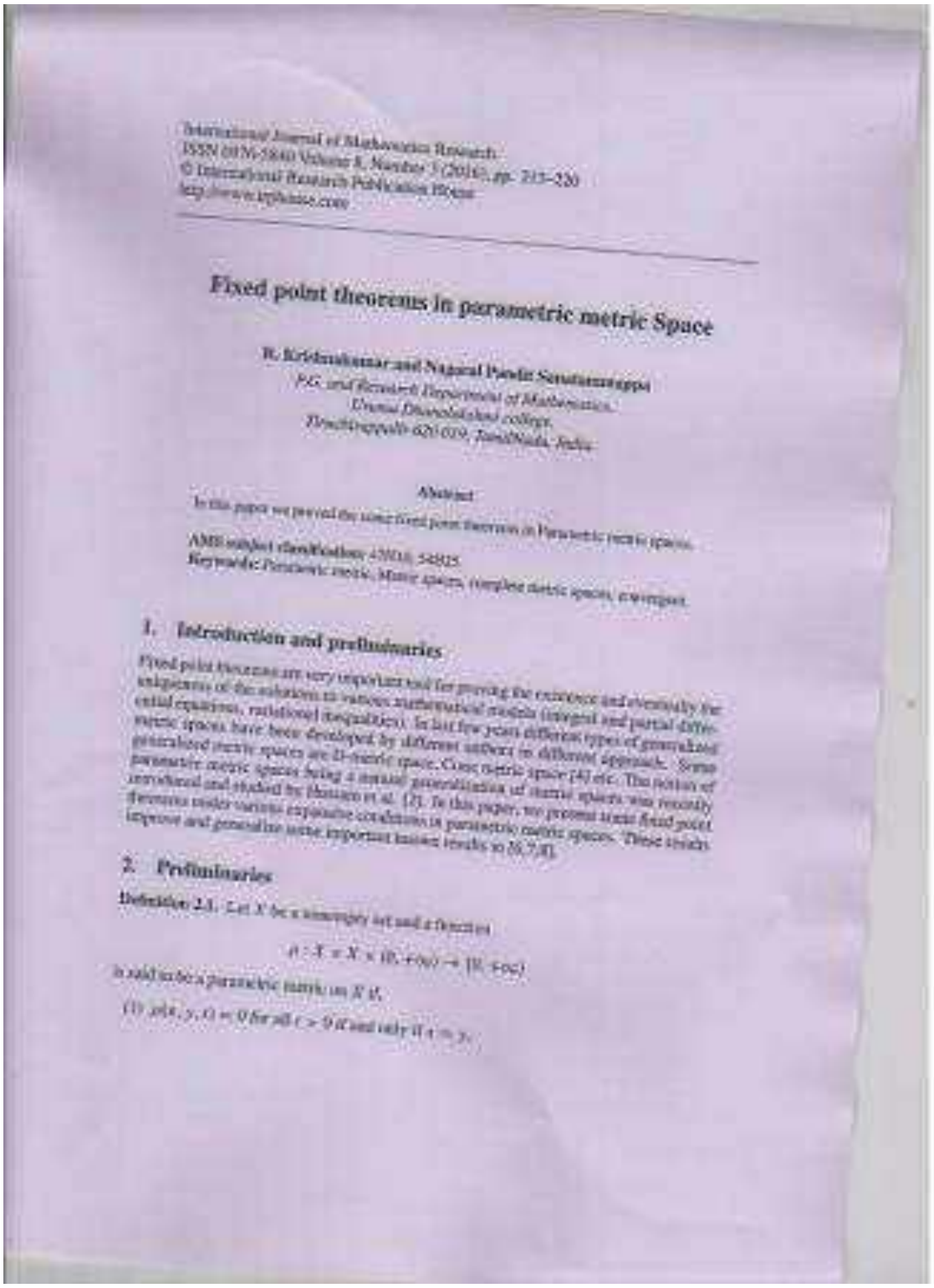
A N.A Menger PM-space is said to be a triangle triple(X, F, δ), where δ is a t-norm and (X, F) is a N.A PM-space fulfilling the following condition.

$F(x,z,\max\{t_1,t_2\}) \geq \delta(F(x,y,t_1), F(y,z,t_2))$ for all $x, y, z \in X$, $t_1, t_2 \geq 0$.

Definition 2.4

A sequence $\{x_n\}$ in N. A. Menger PM-space(X, F, δ) converges to $x \in X$ if and only if for each $\varepsilon > 0$, $\lambda > 0$ there exists $M(\varepsilon, \lambda)$ such that $\varphi(F(x_n, x)(\varepsilon)) < \varphi(1 - \lambda)$ for all $n \geq M$, $n \in N$.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics Research.
ISSN 0976-5840 Volume 8, Number 3 (2016), pp. 215-220
© International Research Publication House
http://www.irphouse.com

Fixed point theorems in parametric metric Space

R. Krishnakumar and Nagoul Pandi Senthamarappa
PG and Research Department of Mathematics,
Urumu Dhanalakshmi college,
Tiruchirappalli-620 019, Tamilnadu, India.

Abstract

In this paper we prevail the some fixed point theorems in Parametric metric spaces.

AMS subject classification: 47H10, 54H25
Keywords: Parametric metric, Metric spaces, complete metric spaces, a-contraction.

1. Introduction and preliminaries

Fixed point theorems are very important tool for proving the existence and eventually the uniqueness of the solutions to various mathematical models (integral and partial differential equations, variational inequalities). In last few years different types of generalized metric spaces have been developed by different authors in different approach. Some generalized metric spaces are D-metric space, Cone metric space [4] etc. The notion of parametric metric spaces being a natural generalization of metric spaces was recently introduced and studied by Haniaz et al. [2]. In this paper, we present some fixed point theorems under various expansive conditions in parametric metric spaces. These results improve and generalize some important known results in [6, 7, 8].

2. Preliminaries

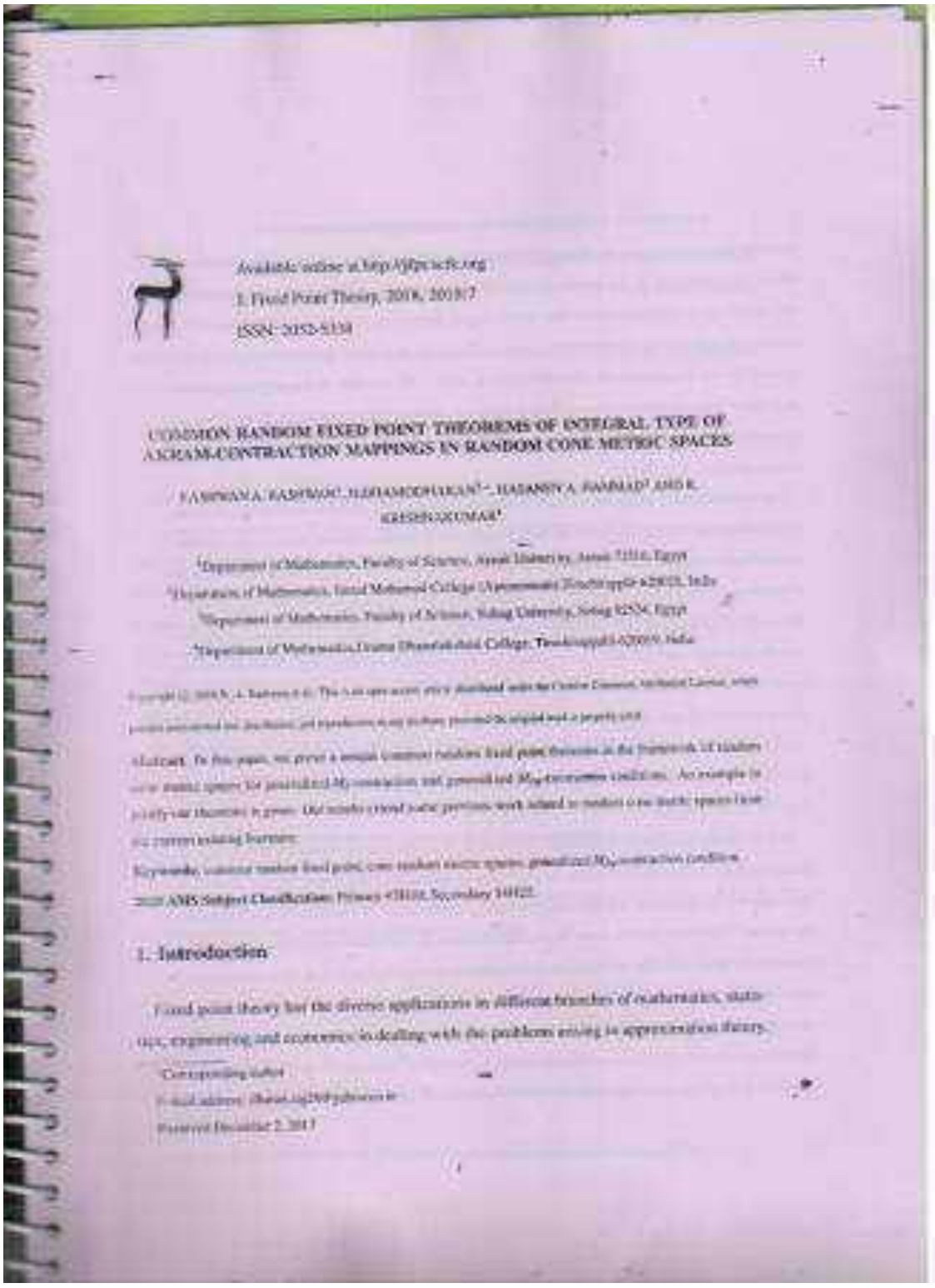
Definition 2.1. Let X be a nonempty set and a function

$$\theta : X \times X \times [0, +\infty) \to [0, +\infty)$$

is said to be a parametric metric on X if,

(1) $\theta(x, y, t) = 0$ for all $t > 0$ if and only if $x = y$,

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Available online at http://fptc.in.th.org
J. Fixed Point Theory, 2018, 2018:7
ISSN: 2052-5338

COMMON RANDOM FIXED POINT THEOREMS OF INTEGRAL TYPE OF ARJOAM-CONTRACTION MAPPINGS IN RANDOM CONE METRIC SPACES

FAHMIDA A. FAHMIDO[1], HAMEDPARIAN[2]*, HASANEIN A. HAMAD[3] AND R. KRISHNAKUMAR[4]

[1]Department of Mathematics, Faculty of Science, Assiut University, Assiut 71516, Egypt
[2]Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli-620020, India
[3]Department of Mathematics, Faculty of Science, Sohag University, Sohag 82524, Egypt
[4]Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli-620019, India

Copyright © 2018 A. A. Fahmido et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract. In this paper, we prove a unique common random fixed point theorem in the framework of random cone metric spaces for generalized M_f-contraction and generalized M_{fg}-contraction conditions. An example to justify our theorem is given. Our results extend some previous work related to random cone metric spaces have to various existing literature.

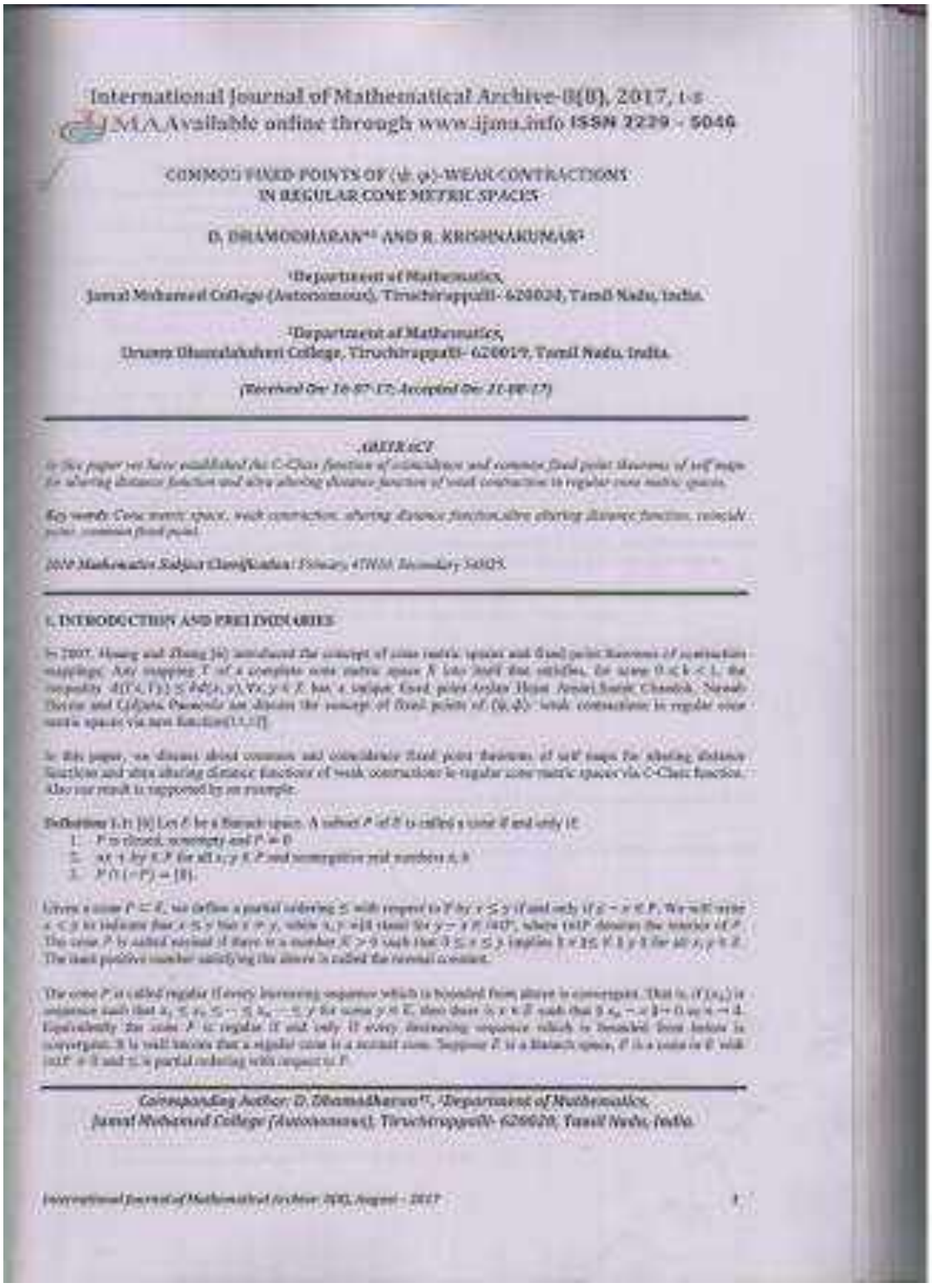
Keywords. common random fixed point; cone random metric spaces; generalized M_f-contraction condition.
2010 AMS Subject Classification: Primary 47H10; Secondary 54H25.

1. Introduction

Fixed point theory has the diverse applications in different branches of mathematics, statistics, engineering and economics in dealing with the problems arising in approximation theory.

*Corresponding author
E-mail address: (hamed.ra2969@yahoo.in)
Received December 2, 2017

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematical Archive-8(8), 2017, 1-8
IJMA Available online through www.ijma.info ISSN 2229 - 5046

COMMON FIXED POINTS OF (ψ, φ)-WEAK CONTRACTIONS IN REGULAR CONE METRIC SPACES

D. DHAMODHARAN*[1] AND R. KRISHNAKUMAR[2]

[1]Department of Mathematics,
Jamal Mohamed College (Autonomous), Tiruchirappalli- 620020, Tamil Nadu, India.

[2]Department of Mathematics,
Urumu Dhanalakshmi College, Tiruchirappalli- 620019, Tamil Nadu, India.

(Received On: 16-07-17; Accepted On: 31-08-17)

ABSTRACT

In this paper we have established the C-Class function of coincidence and common fixed point theorems of self maps for altering distance function and ultra altering distance function of weak contraction in regular cone metric spaces.

Key words: Cone metric space, weak contraction, altering distance function,ultra altering distance function, coincidence point, common fixed point.

2010 Mathematics Subject Classification: Primary 47H10, Secondary 54H25.

1. INTRODUCTION AND PRELIMINARIES

In 2007, Huang and Zhang [6] introduced the concept of cone metric spaces and fixed point theorems of contraction mappings. Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \le k < 1$, the inequality $d(Tx,Ty) \le kd(x,y), \forall x,y \in X$ has a unique fixed point Aynur Ilhan Asuel Sonic Chandra, Nawab Hussain and Gülşan Durmaz are discuss the concept of fixed points of (ψ,φ)- weak contractions in regular cone metric spaces via new function[3,5,7].

In this paper, we discuss about common and coincidence fixed point theorems of self maps for altering distance function and ultra altering distance function of weak contraction in regular cone metric spaces via C-Class function. Also our result is supported by an example.

Definition 1.1: [6] Let E be a Banach space. A subset P of E is called a cone if and only if:

1. P is closed, nonempty and $P \neq \{0\}$
2. $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b
3. $P \cap (-P) = \{0\}$.

Given a cone $P \subset E$, we define a partial ordering $\le$ with respect to P by $x \le y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \le y$ but $x \neq y$, while $x \ll y$ will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \le x \le y$ implies $\|x\| \le K\|y\|$ for all $x, y \in P$. The least positive number satisfying the above is called the normal constant.

The cone P is called regular if every increasing sequence which is bounded from above is convergent. That is, if $\{x_n\}$ is a sequence such that $x_1 \le x_2 \le \cdots \le x_n \cdots \le y$ for some $y \in E$, then there is $x \in E$ such that $\|x_n - x\| \to 0$ as $n \to \infty$. Equivalently the cone P is regular if and only if every decreasing sequence which is bounded from below is convergent. It is well known that a regular cone is a normal cone. Suppose E is a Banach space, P is a cone in E with $\text{int}P \neq \emptyset$ and $\le$ is a partial ordering with respect to P.

Corresponding Author: D. Dhamodharan[1]*, [1]Department of Mathematics,
Jamal Mohamed College (Autonomous), Tiruchirappalli- 620020, Tamil Nadu, India.*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 10 No. III (December 2016), pp. 89-106

SOME FIXED POINT THEOREMS IN PARAMETRIC b-METRIC SPACE

R. KRISHNAKUMAR[1] AND NAGARAJ PANDIT SANATANAPPA[2]
[1] Professor and Head, P.G. and Research Department of Mathematics,
Urumu Dhanalakshmi college, Tiruchirappalli-620 019, Tamilnadu, India
[2] Research Scholar, P.G. and Research Department of Mathematics,
Urumu Dhanalakshmi college, Tiruchirappalli-620 019, Tamilnadu, India

Abstract

In this paper we proved the some fixed point theorems in Parametric b-Metric spaces.

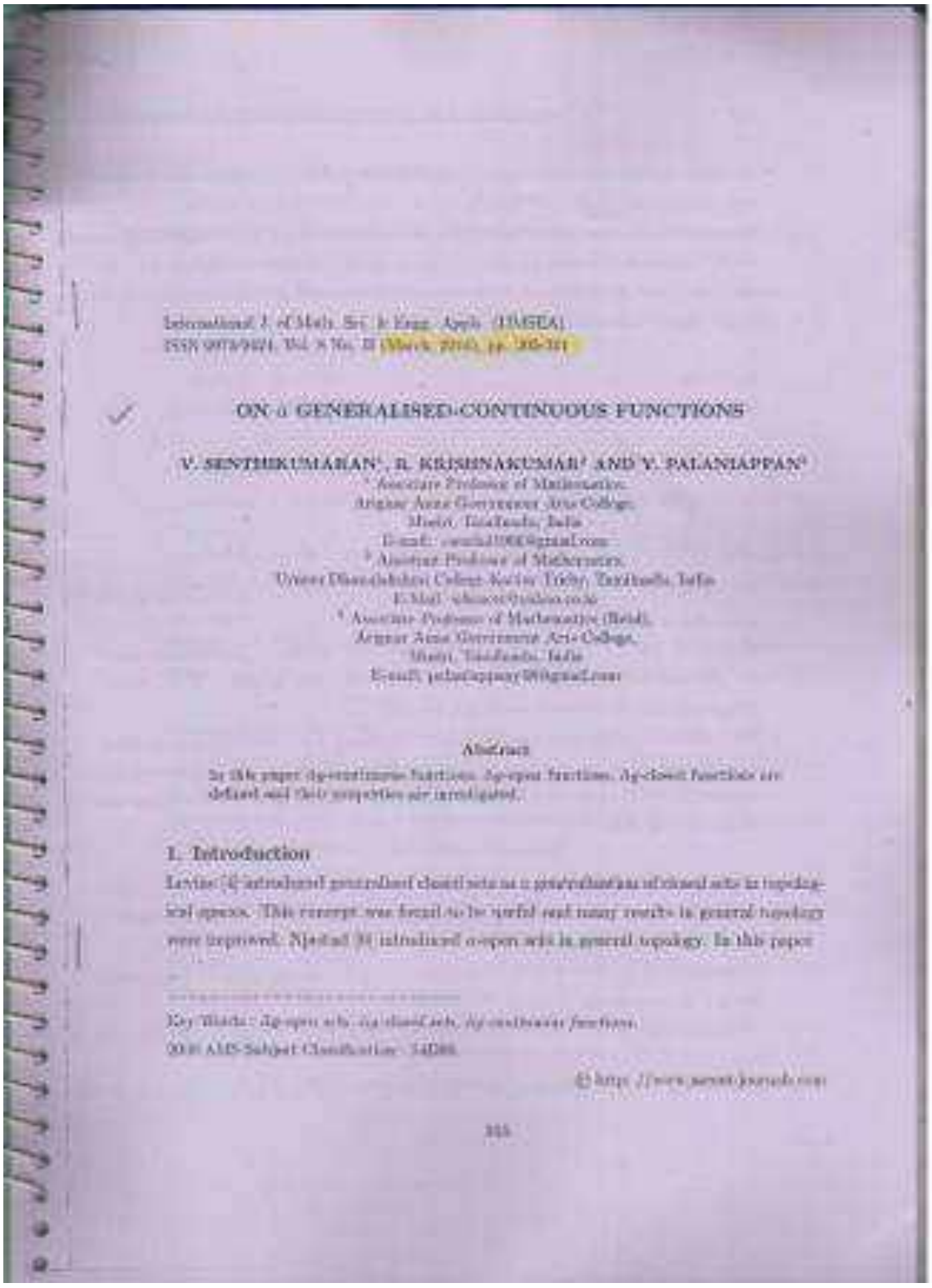
1. Introduction and Preliminaries

The concept of a b-metric space was introduced by Czerwik in [7] and many fixed point results for single and multi-valued mappings are proved by many authors in the setting of b-metric spaces. Alghamdi, et al. [2] proved some fixed point and coupled fixed point theorems on b-metric-like spaces. Hussain et al. [8,10] introduced a new type of generalized metric space, called parametric b-metric space, as a generalization of both, metric and b-metric spaces. The aim of this paper is to extend the Banach fixed point

Key Words: Parametric b-Metric, b-Metric spaces, Complete metric spaces.
AMS Subject Classification: 47H10,54H25.

© http://www.ascent-journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 8 No. II (March, 2014), pp. 305-311

ON Δ GENERALISED-CONTINUOUS FUNCTIONS

V. SENTHILKUMARAN[1], R. KRISHNAKUMAR[2] AND V. PALANIAPPAN[3]
[1] Associate Professor of Mathematics,
Arignar Anna Government Arts College,
Musiri, Tiruchirappalli, India.
E-mail: [illegible]
[2] Assistant Professor of Mathematics,
Urumu Dhanalakshmi College, Kattur, Tiruchirappalli, India.
E-Mail: [illegible]
[3] Associate Professor of Mathematics (Retd),
Arignar Anna Government Arts College,
Musiri, Tiruchirappalli, India.
E-mail: [illegible]

Abstract

In this paper Δg-continuous functions, Δg-open functions, Δg-closed functions are defined and their properties are investigated.

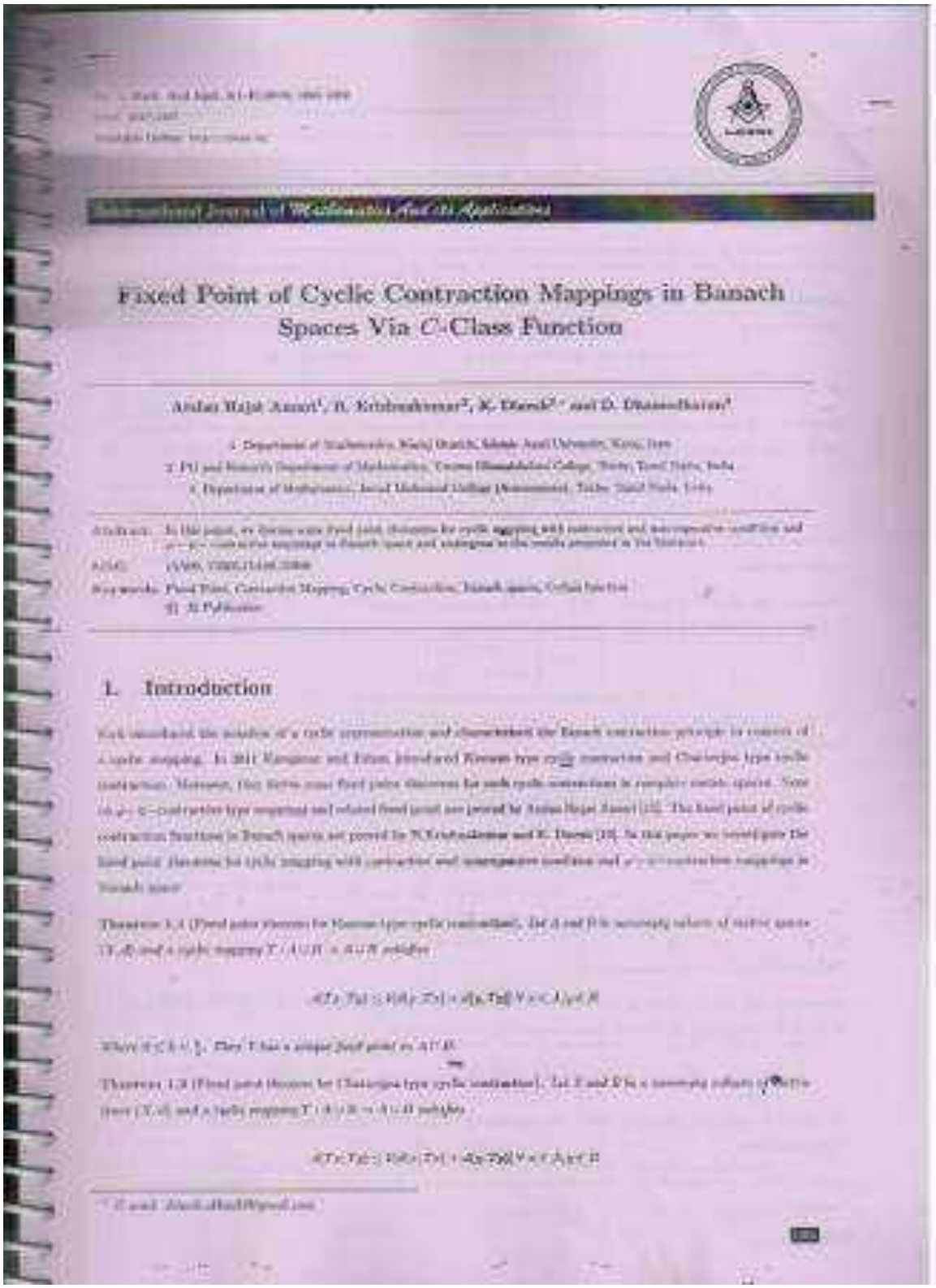
1. Introduction

Levine [4] introduced generalized closed sets as a generalization of closed sets in topological spaces. This concept was found to be useful and many results in general topology were improved. Njastad [6] introduced α-open sets in general topology. In this paper

Key Words: Δg-open sets, Δg-closed sets, Δg-continuous functions.
2010 AMS Subject Classification: 54D99.

© http://www.senet.journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics And its Applications

Fixed Point of Cyclic Contraction Mappings in Banach Spaces Via C-Class Function

Arslan Hojat Ansari[1], R. Krishnakumar[2], K. Dinesh[3,*] and D. Dhamodharan[3]

1. Department of Mathematics, Karaj Branch, Islamic Azad University, Karaj, Iran
2. PG and Research Department of Mathematics, Cauvery Dhanalakshmi College, Trichy, Tamil Nadu, India
3. Department of Mathematics, Jamal Mohamed College (Autonomous), Trichy, Tamil Nadu, India

Abstract: In this paper, we derive some fixed point theorems for cyclic mapping with contractive and non-expansive conditions and $\psi-\varphi-$ contractive mappings in Banach spaces and analogous to the results proposed in the literature.

AMS(MOS): 47H09, 47H10, 54H25

Keywords: Fixed Point, Contractive Mapping, Cyclic Contraction, Banach spaces, Cyclic function

© JS Publication

1. Introduction

Kirk introduced the notion of a cyclic contraction and characterized the Banach contraction principle in context of a cyclic mapping. In 2011 Karapinar and Erhan introduced Kannan type cyclic contraction and Chatterjea type cyclic contraction. Moreover, they derive some fixed point theorems for such cyclic contractions in complete metric spaces. Note on $\psi-\varphi-$ contractive type mappings and related fixed point are proved by Arslan Hojat Ansari [10]. The fixed point of cyclic contraction functions in Banach spaces are proved by R.Krishnakumar and K. Dinesh [9]. In this paper we extend give the fixed point theorems for cyclic mapping with contractive and non-expansive conditions and $\psi-\varphi-$ contractive mappings in Banach space.

Theorem 1.1 (Fixed point theorem for Kannan type cyclic contraction). *Let A and B be nonempty subsets of metric space (X,d) and a cyclic mapping $T: A\cup B \to A\cup B$ satisfies*

$$d(Tx,Ty) \leq k[d(y,Ty)+d(x,Tx)] \ \forall\ x\in A, y\in B$$

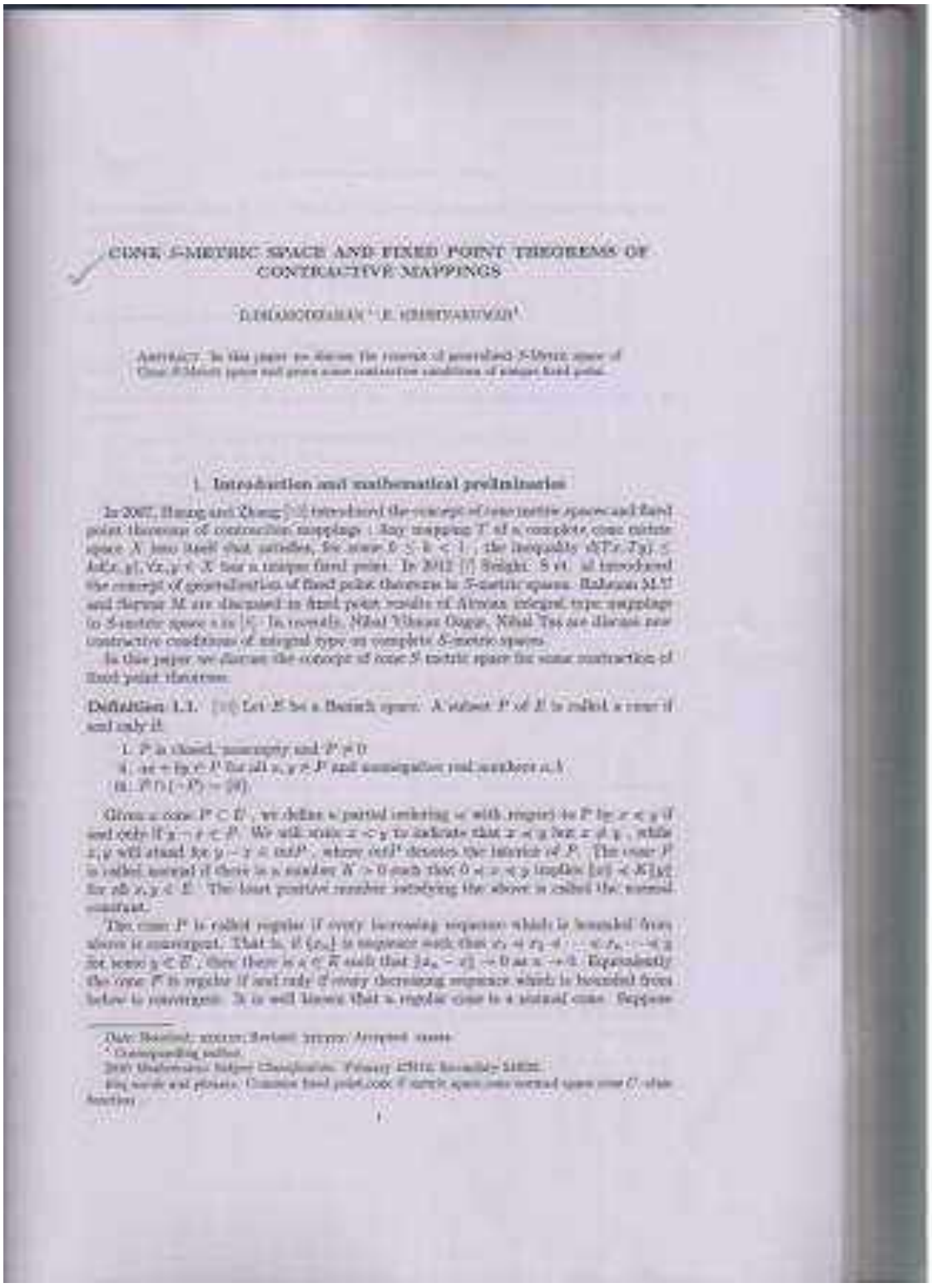
Where $0\leq k<\frac{1}{2}$. Then T has a unique fixed point in $A\cap B$.

Theorem 1.2 (Fixed point theorem for Chatterjea type cyclic contraction). *Let A and B be a nonempty subsets of metric space (X,d) and a cyclic mapping $T: A\cup B \to A\cup B$ satisfies*

$$d(Tx,Ty) \leq k[d(x,Ty)+d(y,Tx)] \ \forall\ x\in A, y\in B$$

* E-mail: dinesh.thiru88@gmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



CONE S-METRIC SPACE AND FIXED POINT THEOREMS OF CONTRACTIVE MAPPINGS

D.DHAMODHARAN [*], R. KRISHNAKUMAR[1]

Abstract. In this paper we discuss the concept of generalized S-Metric space of Cone S-Metric space and prove some contractive conditions of unique fixed point.

1. Introduction and mathematical preliminaries

In 2007, Huang and Zhang [3] introduced the concept of cone metric spaces and fixed point theorems of contractive mappings . Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \leq k < 1$, the inequality $d(Tx,Ty) \leq kd(x,y), \forall x,y \in X$ has a unique fixed point. In 2012 [7] Sedghi S et. al introduced the concept of generalization of fixed point theorem in S-metric spaces. Rahman M.U and Sarwar M are discussed in fixed point results of Ciric's integral type mappings in S-metric space s in [4]. In recently, Nihal Yilmaz Ozgur, Nihal Tas are discuss new contractive conditions of integral type on complete S-metric spaces.

In this paper we discuss the concept of cone S metric space for some contraction of fixed point theorems.

Definition 1.1. [10] Let E be a Banach space. A subset P of E is called a cone if and only if:

i. P is closed, nonempty and $P \neq 0$

ii. $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b

iii. $P \cap (-P) = \{0\}$.

Given a cone $P \subset E$, we define a partial ordering $\preccurlyeq$ with respect to P by $x \preccurlyeq y$ if and only if $y - x \in P$. We will write $x \prec y$ to indicate that $x \preccurlyeq y$ but $x \neq y$, while $x \ll y$ will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \preccurlyeq x \preccurlyeq y$ implies $\|x\| \leq K\|y\|$ for all $x, y \in E$. The least positive number satisfying the above is called the normal constant.

The cone P is called regular if every increasing sequence which is bounded from above is convergent. That is, if $\{x_n\}$ is sequence such that $x_1 \preccurlyeq x_2 \preccurlyeq \cdots \preccurlyeq x_n \cdots \preccurlyeq y$ for some $y \in E$, then there is a $x \in E$ such that $\|x_n - x\| \to 0$ as $n \to 0$. Equivalently the cone P is regular if and only if every decreasing sequence which is bounded from below is convergent. It is well known that a regular cone is a normal cone. Suppose

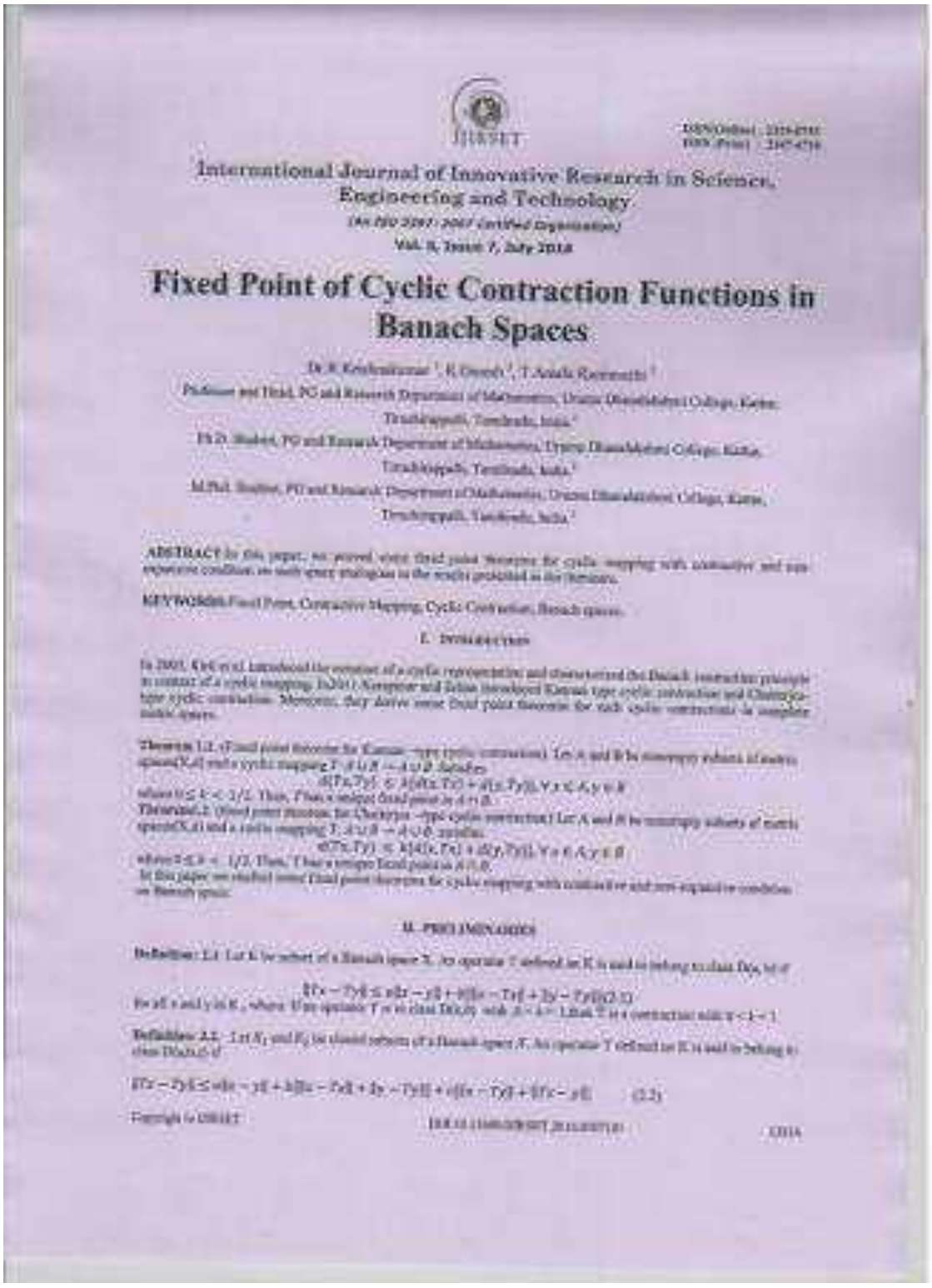
Date: Received: xxxxxx; Revised: yyyyyy; Accepted: zzzzzz.

[*] Corresponding author.

2010 Mathematics Subject Classification. Primary 47H10, Secondary 54H25.

Key words and phrases. Cone S-metric space, fixed point, cone S -metric space over Banach algebra.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 7, July 2016

Fixed Point of Cyclic Contraction Functions in Banach Spaces

Dr. R. Krishnakumar [1], R. Dinesh [2], T. Anand Raveendra [3]

Professor and Head, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [1]

Ph.D. Student, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [2]

M.Phil. Student, PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Karur, Tiruchirappalli, Tamilnadu, India [3]

ABSTRACT: In this paper, we proved some fixed point theorems for cyclic mapping with contractive and non-expansive condition on such space analogous to the results published in the literature.

KEYWORDS: Fixed Point, Contractive Mapping, Cyclic Contraction, Banach spaces.

I. INTRODUCTION

In 2003, Kirk et al. introduced the notion of a cyclic representation and characterized the Banach contraction principle in context of a cyclic mapping. In 2011 Karapinar and Sehin introduced Kannan type cyclic contraction and Chatterjea-type cyclic contraction. Moreover, they derive some fixed point theorems for such cyclic contractions in complete metric spaces.

Theorem 1.1. (Fixed point theorem for Kannan –type cyclic contraction) Let A and B be nonempty subsets of metric space(X,d) and a cyclic mapping $T: A \cup B \to A \cup B$ satisfies

$$d(Tx,Ty) \leq k[d(x,Tx) + d(y,Ty)], \forall x \in A, y \in B$$

where $0 \leq k < 1/2$. Then, T has a unique fixed point in $A \cap B$.

Theorem 1.2. (Fixed point theorem for Chatterjea –type cyclic contraction) Let A and B be nonempty subsets of metric space(X,d) and a cyclic mapping $T: A \cup B \to A \cup B$ satisfies

$$d(Tx,Ty) \leq k[d(x,Tx) + d(y,Ty)], \forall x \in A, y \in B$$

where $0 \leq k < 1/2$. Then, T has a unique fixed point in $A \cap B$.

In this paper we studied some fixed point theorems for cyclic mapping with contractive and non-expansive condition on Banach space.

II. PRELIMINARIES

Definition 2.1 Let K be subset of a Banach space X. An operator T defined on K is said to belong to class D_K if

$$\|Tx - Ty\| \leq a\|x - y\| + b[\|x - Tx\| + \|y - Ty\|] \quad (2.1)$$

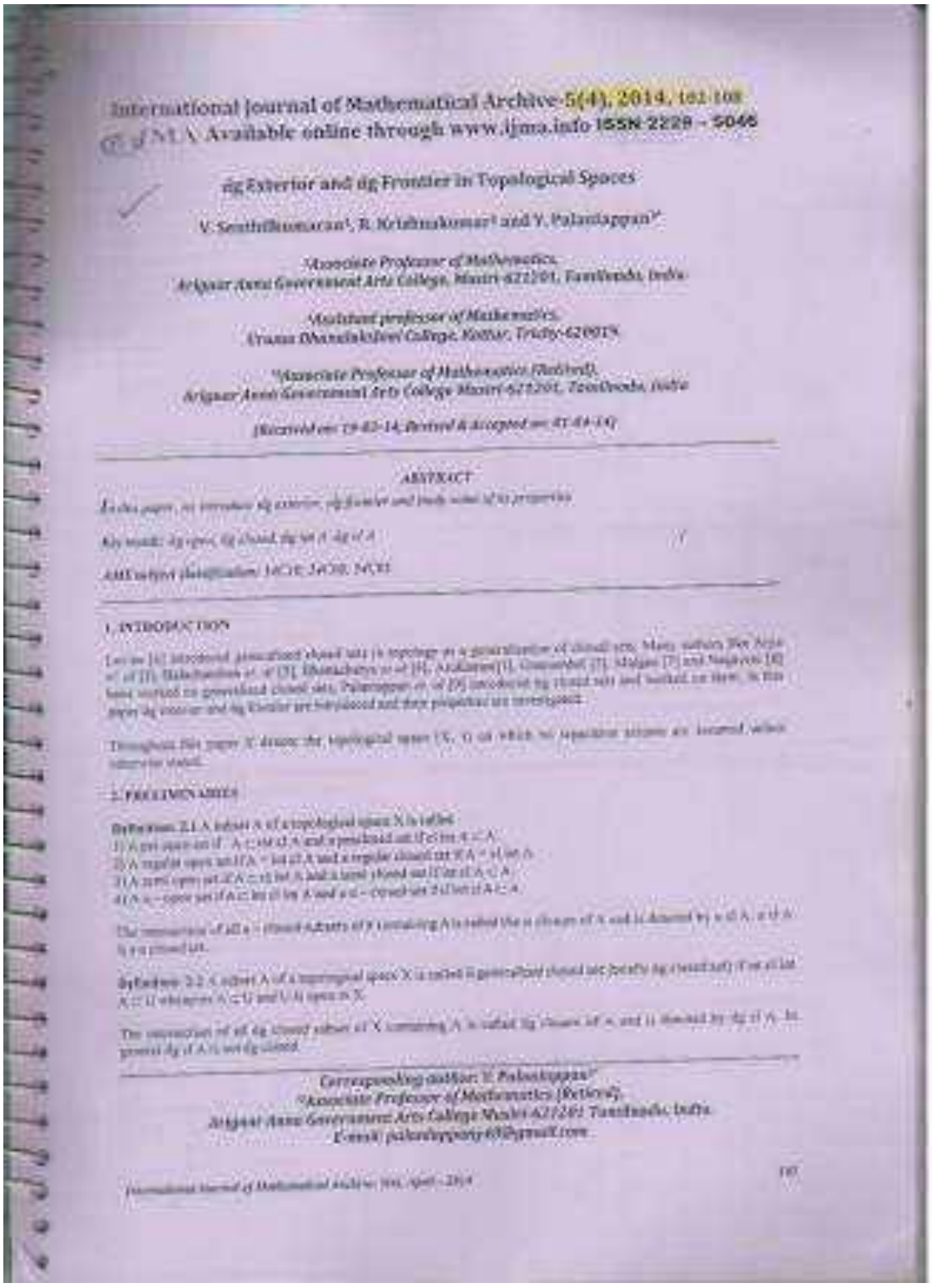
for all x and y in K, where T an operator T is in class $D(a,b)$ with $a + 2b = 1$ then T is a contraction with $0 < k < 1$.

Definition 2.2 Let K_1 and K_2 be closed subsets of a Banach space X. An operator T defined on K is said to belong to class $D(a,b,c)$ if

$$\|Tx - Ty\| \leq a\|x - y\| + b[\|x - Tx\| + \|y - Ty\|] + c[\|x - Ty\| + \|Tx - y\|] \quad (2.2)$$

Copyright to IJIRSET

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematical Archive-5(4), 2014, 102-108
Available online through www.ijma.info ISSN 2229 – 5046

dg Exterior and dg Frontier in Topological Spaces

V. Senthilkumaran[1], R. Krishnakumar[2] and Y. Palaniappan[3]*

[1]Associate Professor of Mathematics,
Arignar Anna Government Arts College, Musiri-621201, Tamilnadu, India

[2]Assistant professor of Mathematics,
Urumu Dhanalakshmi College, Kottar, Trichy-620019.

[3]Associate Professor of Mathematics (Retired),
Arignar Anna Government Arts College Musiri-621201, Tamilnadu, India

(Received on: 19-02-14; Revised & Accepted on: 07-04-14)

ABSTRACT

In this paper, we introduce dg exterior, dg frontier and study some of its properties.

Key words: dg open, dg closed, dg int A, dg cl A.

AMS subject classification: 54C10, 54C08, 54C55.

1. INTRODUCTION

Levine [6] introduced generalized closed sets in topology as a generalization of closed sets. Many authors like Arya et al [2], Balachandran et al [5], Bhattacharya et al [8], Arokiarani [1], Gnanambal [3], Maligan [7] and Nagaviec [10] have studied on generalized closed sets. Palaniappan et al [9] introduced rg closed sets and studied on them. In this paper dg exterior and dg frontier are introduced and their properties are investigated.

Throughout this paper X denote the topological space (X, τ) on which no separation axioms are assumed unless otherwise stated.

2. PRELIMINARIES

Definition 2.1 A subset A of a topological space X is called

1) A pre open set if $A \subset int\,cl\,A$ and a preclosed set if $cl\,int\,A \subset A$.
2) A regular open set if $A = int\,cl\,A$ and a regular closed set if $A = cl\,int\,A$.
3) A semi open set if $A \subset cl\,int\,A$ and a semi closed set if $cl\,int\,A \subset A$.
4) A α – open set if $A \subset int\,cl\,int\,A$ and a α – closed set if $cl\,int\,cl\,A \subset A$.

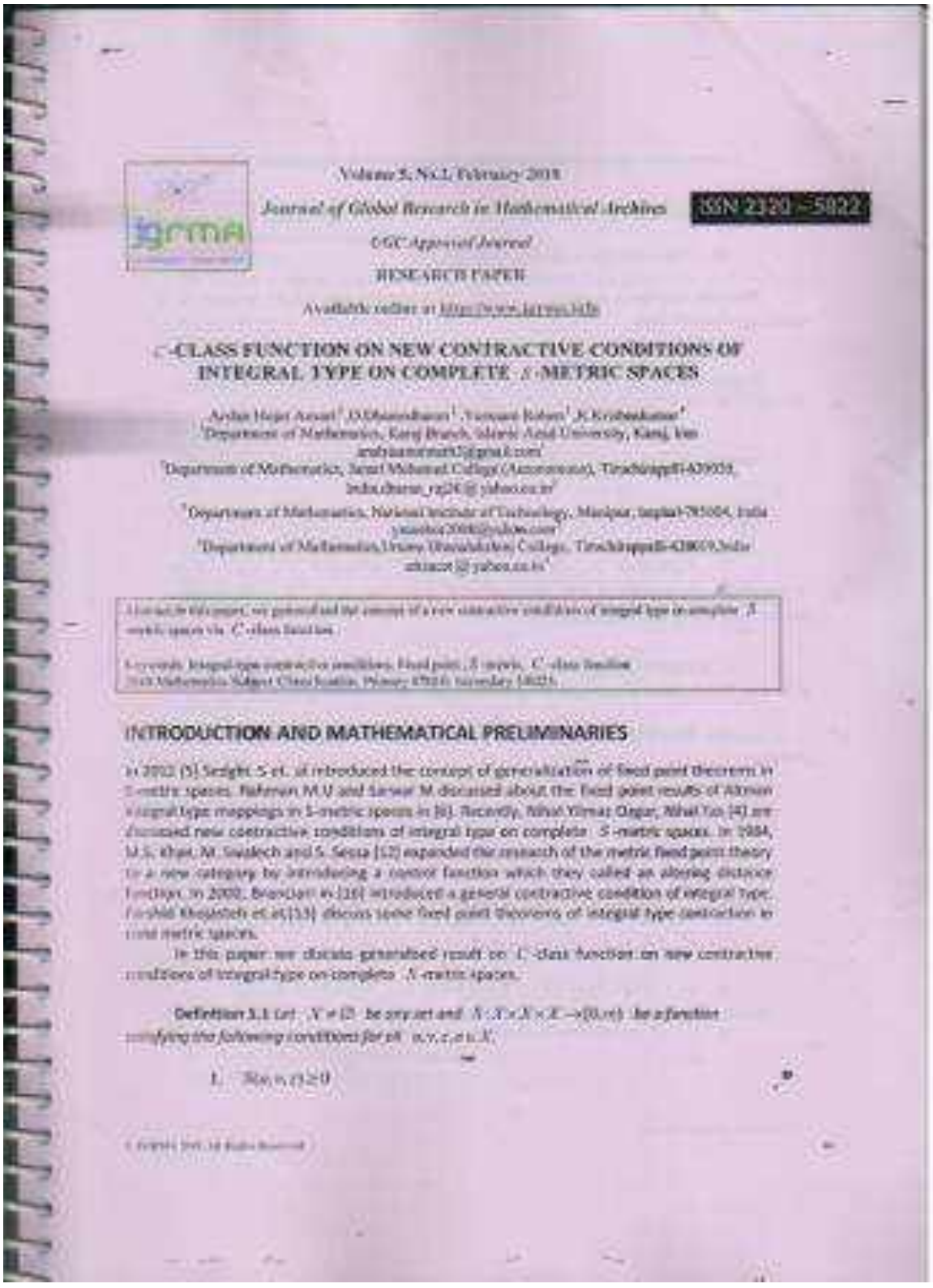
The intersection of all α – closed subsets of X containing A is called the α closure of A and is denoted by $\alpha\text{-}cl\,A$. $\alpha\text{-}cl\,A$ is a α closed set.

Definition 2.2 A subset A of a topological space X is called a generalized closed set (briefly g closed set) if $cl\,int\,A \subset U$ whenever $A \subset U$ and U is open in X.

The intersection of all g closed subset of X containing A is called dg closure of A and is denoted by $dg\text{-}cl\,A$. In general $dg\text{-}cl\,A \neq A$ is not dg closed.

Corresponding author: Y. Palaniappan*
*Associate Professor of Mathematics (Retired),
Arignar Anna Government Arts College Musiri 621201 Tamilnadu, India
E-mail: palaniappany65@gmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Volume 5, No.2, February 2018

Journal of Global Research in Mathematical Archives

ISSN 2320 – 5822

UGC Approved Journal

RESEARCH PAPER

Available online at http://www.jgrma.info

C-CLASS FUNCTION ON NEW CONTRACTIVE CONDITIONS OF INTEGRAL TYPE ON COMPLETE S-METRIC SPACES

Arslan Hojat Ansari[1], O.Ravindranath[2], Vanaja Rohini[3], K.Krishnakumar[4]

[1]Department of Mathematics, Karaj Branch, Islamic Azad University, Karaj, Iran
analyticmath2@gmail.com

[2]Department of Mathematics, Sanjivi Memorial College (Autonomous), Tirubhuvanapalli-629003, India.(ravi_raj24@yahoo.co.in)

[3]Department of Mathematics, National Institute of Technology, Manipur, Imphal-795004, India
vanaja2008@yahoo.com

[4]Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli-620019,India
ekkacot@yahoo.co.in

In this paper, we generalized the concept of a new contractive conditions of integral type in complete S-metric spaces via C-class functions.

Keywords: Integral type contractive conditions, Fixed point, S-metric, C-class function
2010 Mathematics Subject Classification: Primary 47H10; Secondary 54H25.

INTRODUCTION AND MATHEMATICAL PRELIMINARIES

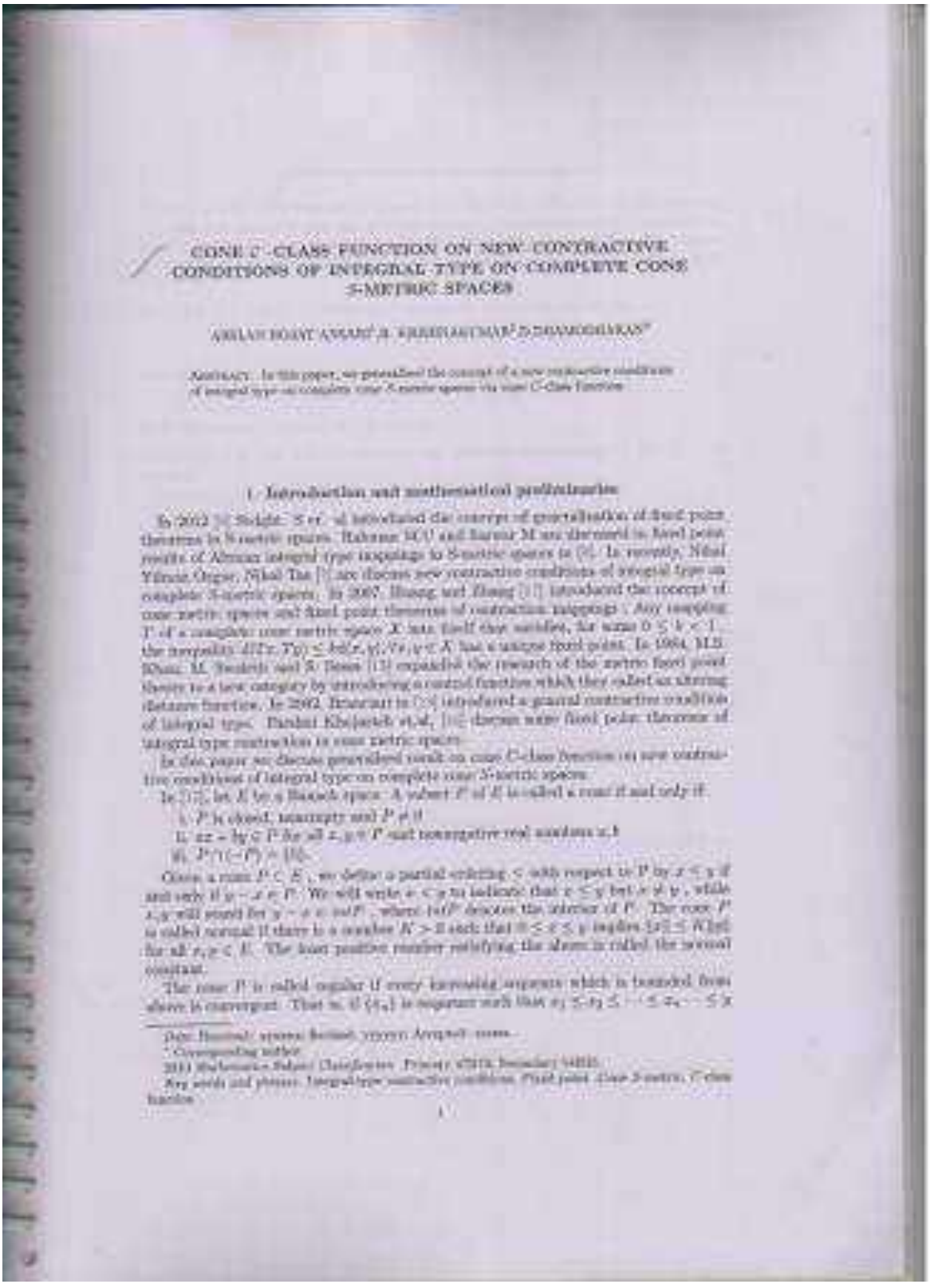
In 2012 [5] Sedghi S et. al introduced the concept of generalization of fixed point theorem in S-metric spaces. Rahman M.U and Sarwar M discussed about the fixed point results of Altman integral type mappings in S-metric spaces in [6]. Recently, Nihal Yilmaz Ozgur, Nihal Tas [4] are discussed new contractive conditions of integral type on complete S-metric spaces. In 1984, M.S. Khan, M. Swaleeh and S. Sessa [12] expanded the research of the metric fixed point theory to a new category by introducing a control function which they called an altering distance function. In 2000, Branciari in [10] introduced a general contractive condition of integral type. Farshid Khojasteh et al.[13] discuss some fixed point theorems of integral type contraction in cone metric spaces.

In this paper we discuss generalized result on C-class function on new contractive conditions of integral type on complete S-metric spaces.

Definition 1.1 Let $X \neq \emptyset$ be any set and $S: X \times X \times X \to [0,\infty)$ be a function satisfying the following conditions for all $x, y, z, a \in X$,

1. $S(x, y, z) \geq 0$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



CONE C-CLASS FUNCTION ON NEW CONTRACTIVE CONDITIONS OF INTEGRAL TYPE ON COMPLETE CONE S-METRIC SPACES

ARSLAN HOJAT ANSARI[1], R. KRISHNAKUMAR[2]*, D.DHAMODHARAN[3]

ABSTRACT. In this paper, we generalized the concept of a new contractive conditions of integral type on complete cone S-metric spaces via cone C-class function

1. Introduction and mathematical preliminaries

In 2012 [6] Sedghi, S et. al introduced the concept of generalization of fixed point theorems in S-metric spaces. Rahman M.U and Sarwar M are discussed to fixed point results of Altman integral type mappings in S-metric spaces in [9]. In recently, Nihal Yilmaz Ozgur, Nihal Tas [7] are discuss new contractive conditions of integral type on complete S-metric spaces. In 2007, Huang and Zhang [11] introduced the concept of cone metric spaces and fixed point theorems of contraction mappings : Any mapping T of a complete cone metric space X into itself that satisfies, for some $0 \le k < 1$, the inequality $d(Tx,Ty) \le kd(x,y), \forall x,y \in X$ has a unique fixed point. In 1984, M.S. Khan, M. Swaleh and S. Sessa [13] expanded the research of the metric fixed point theory to a new category by introducing a control function which they called as altering distance function. In 2002, Branciari in [12] introduced a general contractive condition of integral type. Dhariwal Khojasteh et.al, [10] discuss some fixed point theorems of integral type contraction in cone metric spaces.

In this paper we discuss generalized result on cone C-class function on new contractive conditions of integral type on complete cone S-metric spaces.

In [17], let E be a Banach space. A subset P of E is called a cone if and only if:

i. P is closed, nonempty and $P \neq \{0\}$

ii. $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b

iii. $P \cap (-P) = \{0\}$.

Given a cone $P \subset E$, we define a partial ordering $\le$ with respect to P by $x \le y$ if and only if $y - x \in P$. We will write $x < y$ to indicate that $x \le y$ but $x \neq y$, while $x \ll y$ will stand for $y - x \in \text{int}P$, where $\text{int}P$ denotes the interior of P. The cone P is called normal if there is a number $K > 0$ such that $0 \le x \le y$ implies $\|x\| \le K\|y\|$, for all $x, y \in E$. The least positive number satisfying the above is called the normal constant.

The cone P is called regular if every increasing sequence which is bounded from above is convergent. That is, if $\{x_n\}$ is sequence such that $x_1 \le x_2 \le \cdots \le x_n \cdots \le x$

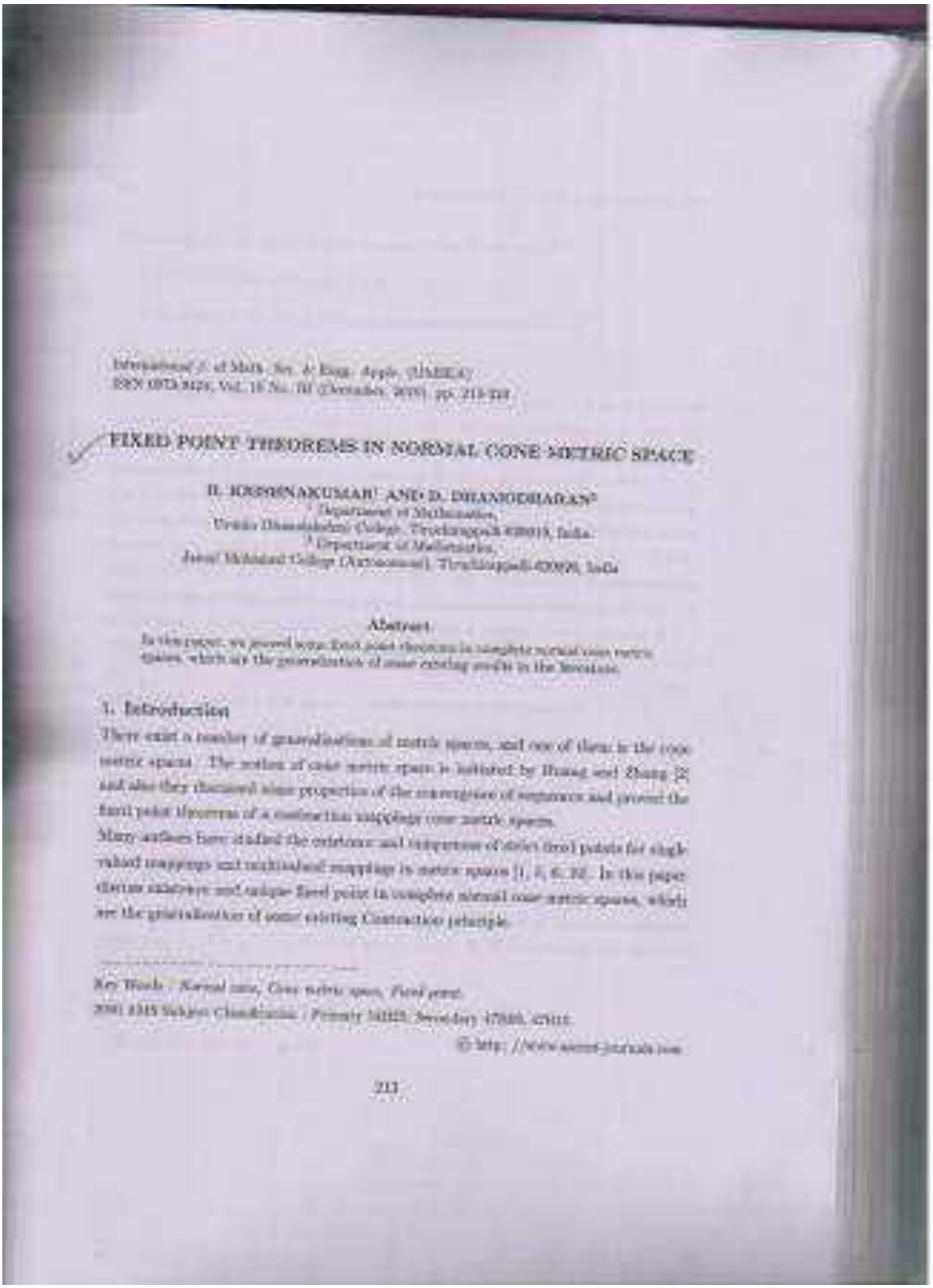
Date: Received: xxxxx; Revised: yyyyyy; Accepted: zzzzz.

* Corresponding author

2010 Mathematics Subject Classification. Primary 47H10, Secondary 54H25.

Key words and phrases. Integral type contractive conditions, Fixed point, Cone S-metric, C-class function

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 10 No. III (December, 2016), pp. 213-218

FIXED POINT THEOREMS IN NORMAL CONE METRIC SPACE

R. KRISHNAKUMAR[1] AND D. DHANAPRADEEP[2]
[1] Department of Mathematics,
Urumu Dhanalakshmi College, Tiruchirappalli-620019, India.
[2] Department of Mathematics,
Jamal Mohamed College (Autonomous), Tiruchirappalli-620020, India

Abstract

In this paper, we proved some fixed point theorems in complete normal cone metric spaces, which are the generalization of some existing results in the literature.

1. Introduction

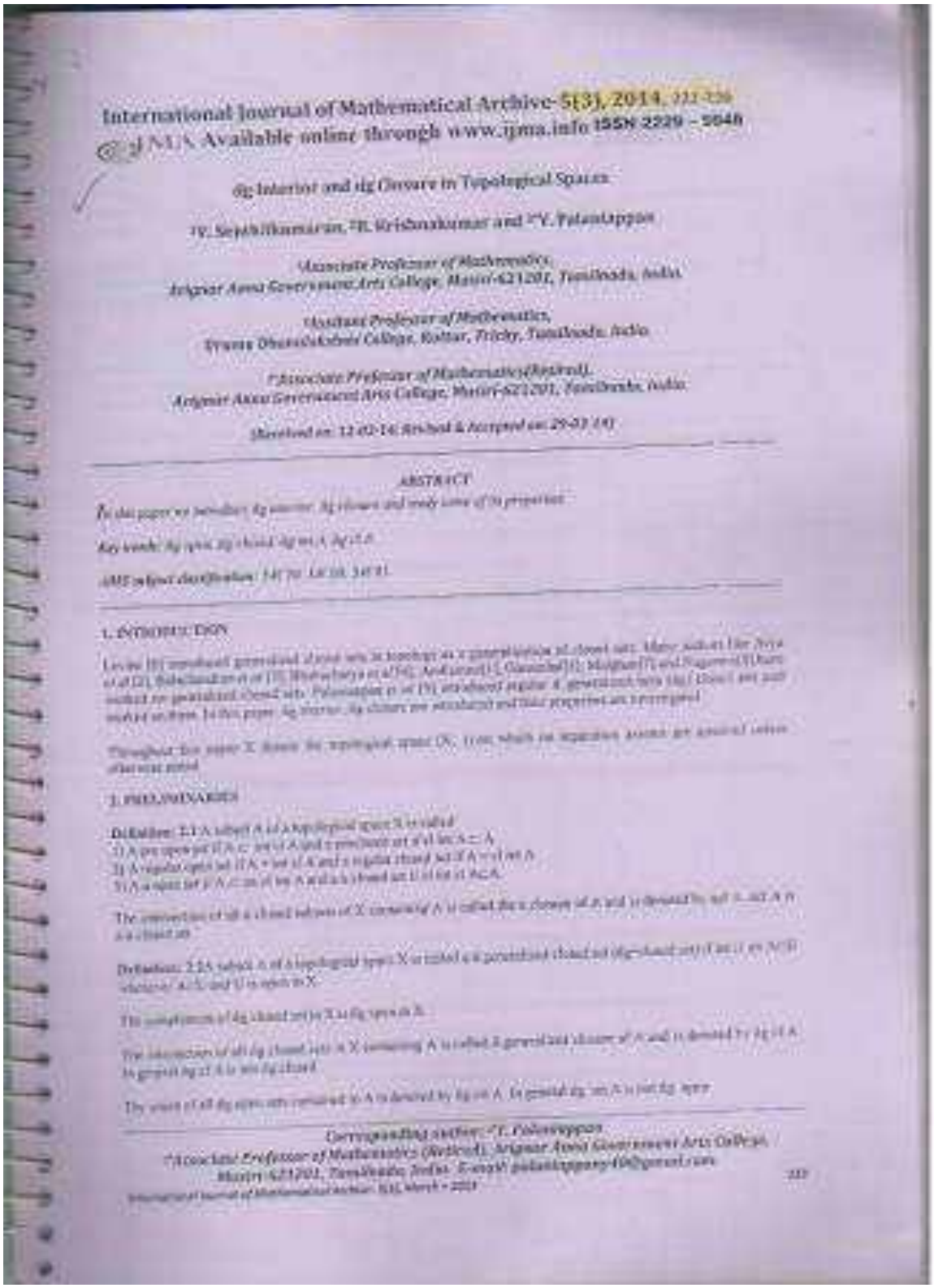
There exist a number of generalizations of metric spaces, and one of them is the cone metric spaces. The notion of cone metric space is initiated by Huang and Zhang [5] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contractive mappings cone metric spaces.

Many authors have studied the existence and uniqueness of coincidence and fixed points for single valued mappings and multivalued mappings in metric spaces [1, 2, 6, 7]. In this paper, we prove existence and unique fixed point in complete normal cone metric spaces, which are the generalization of some existing Contraction principle.

Key Words : Normal cone, Cone metric space, Fixed point.
2000 AMS Subject Classification : Primary 54H25, Secondary 47H09, 47H10.

© http://www.sense-journals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematical Archive-5(3), 2014, 222-226
Available online through www.ijma.info ISSN 2229 – 5046

rg- Interior and rg Closure in Topological Spaces

V. Sellvakumaran, *R. Krishnakumar and **V. Palaniappan

*Associate Professor of Mathematics,
Arignar Anna Government Arts College, Musiri-621201, Tamilnadu, India.

*Assistant Professor of Mathematics,
Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India.

**Associate Professor of Mathematics(Retired),
Arignar Anna Government Arts College, Musiri-621201, Tamilnadu, India.

(Received on: 12-02-14; Revised & Accepted on: 29-03-14)

ABSTRACT

In this paper we introduce rg-interior, rg-closure and study some of its properties.

Key words: rg-open, rg-closed, rg-int(A), rg-cl(A).

AMS subject classification: 54C10, 54C08, 54F65.

1. INTRODUCTION

Levine [8] introduced generalized closed sets in topology as a generalization of closed sets. Many authors like Arya et al [2], Balachandran et al [3], Bhattacharya et al [4], Arockiarani [1], Gnanambal [5], Maki [7], and Nagaveni [9] have studied rg-generalized closed sets. Palaniappan et al [9] introduced regular- Λ-generalized sets (rgΛ-closed sets) and studied various properties in [10]. In this paper rg- interior, rg-closure are introduced and their properties are investigated.

Throughout this paper X denotes the topological space (X, τ) on which no separation axioms are assumed unless otherwise stated.

2. PRELIMINARIES

Definition: 2.1 A subset A of a topological space X is called
1) A pre-open set if A ⊂ int(cl(A)) and a pre-closed set if cl(int(A)) ⊂ A
2) A regular-open set if A = int(cl(A)) and a regular-closed set if A = cl(int(A))
3) A π-open set if A ⊂ int(cl(A)) and A is a closed set in (X, τ) and a π-closed set if cl(int(A)) ⊂ A.

The intersection of all α-closed subsets of X containing A is called the α-closure of A and is denoted by $\alpha\text{-cl}(A)$. $\alpha\text{-cl}(A)$ is a α-closed set.

Definition: 2.2 A subset A of a topological space X is called a generalized closed set (briefly g-closed set) if cl(A) ⊂ U whenever A ⊂ U and U is open in X.

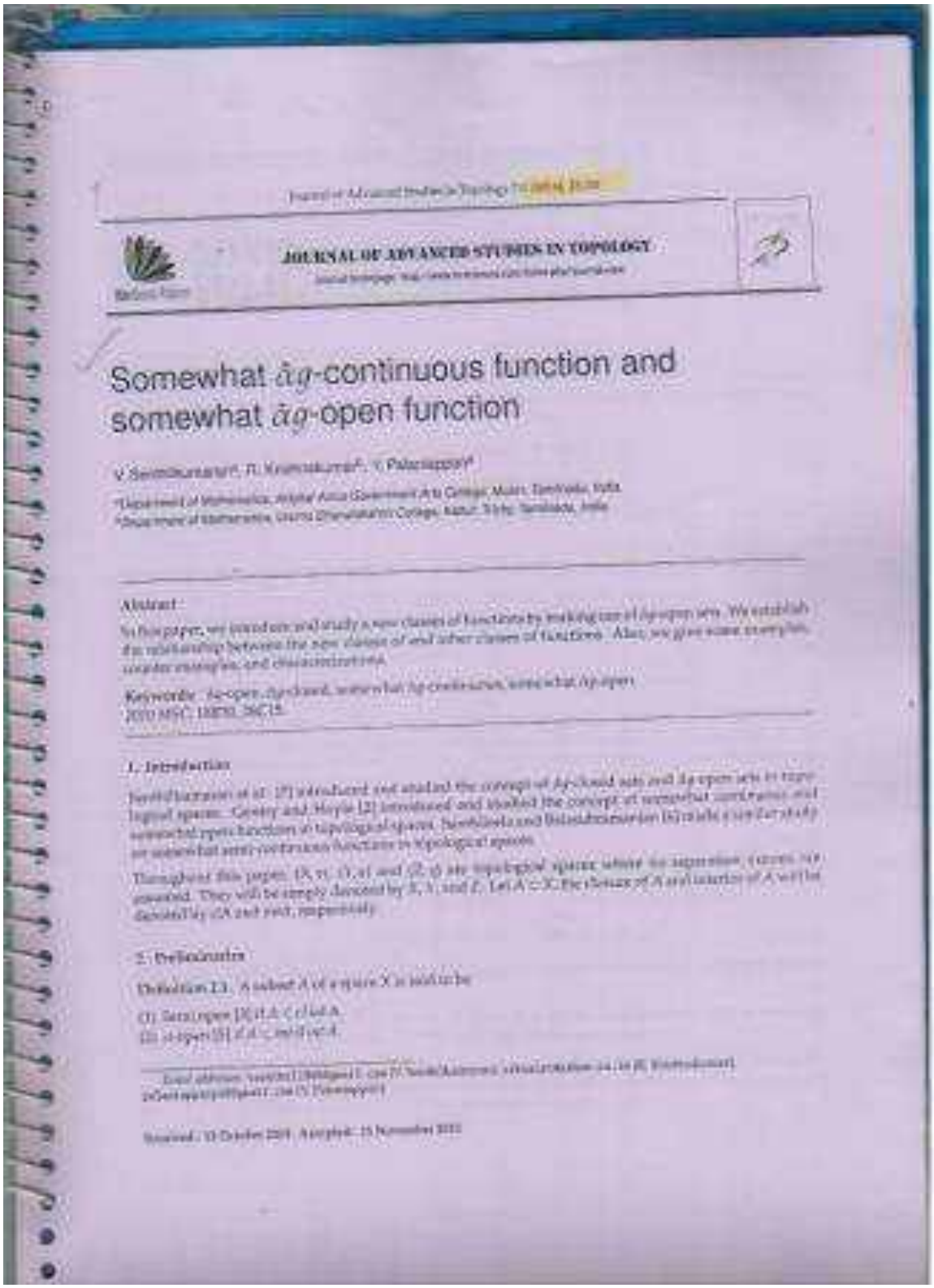
The complement of g-closed set is a g-open set.

The intersection of all g-closed sets in X containing A is called a generalized closure of A and is denoted by $g\text{-cl}(A)$. A is g-closed iff $g\text{-cl}(A) = A$.

The union of all g-open sets contained in A is denoted by $g\text{-int}(A)$. A is g-open iff $g\text{-int}(A) = A$.

Corresponding author: *V. Palaniappan
*Associate Professor of Mathematics (Retired), Arignar Anna Government Arts College, Musiri-621201, Tamilnadu, India. E-mail: palaniappanv49@gmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



JOURNAL OF ADVANCED STUDIES IN TOPOLOGY

Somewhat $\grave{a}g$-continuous function and somewhat $\grave{a}g$-open function

V. Seenivasan[a], R. Krishnakumar[b], V. Palaniappan[a]

[a]Department of Mathematics, Arignar Anna Government Arts College, Musiri, Tamilnadu, India.
[b]Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India.

Abstract

In this paper, we introduce and study a new classes of functions by making use of $\grave{a}g$-open sets. We establish the relationship between the new classes of and other classes of functions. Also, we give some examples, counter examples and characterizations.

Keywords: $\grave{a}g$-open, $\grave{a}g$-closed, somewhat $\grave{a}g$-continuous, somewhat $\grave{a}g$-open.
2010 MSC: 54B10, 54C10.

1. Introduction

Devi Muthuraj et al. [7] introduced and studied the concept of $\grave{a}g$-closed sets and $\grave{a}g$-open sets in topological spaces. Gentry and Hoyle [2] introduced and studied the concept of somewhat continuous and somewhat open function in topological spaces. Neubrunn and Balachandran [6] made a survey on almost and somewhat almost continuous functions in topological spaces.

Throughout this paper, (X, τ), (Y, σ) and (Z, η) are topological spaces where no separation axioms are assumed. They will be simply denoted by X, Y and Z. Let $A \subset X$. The closure of A and interior of A will be denoted by cA and $intA$, respectively.

2. Preliminaries

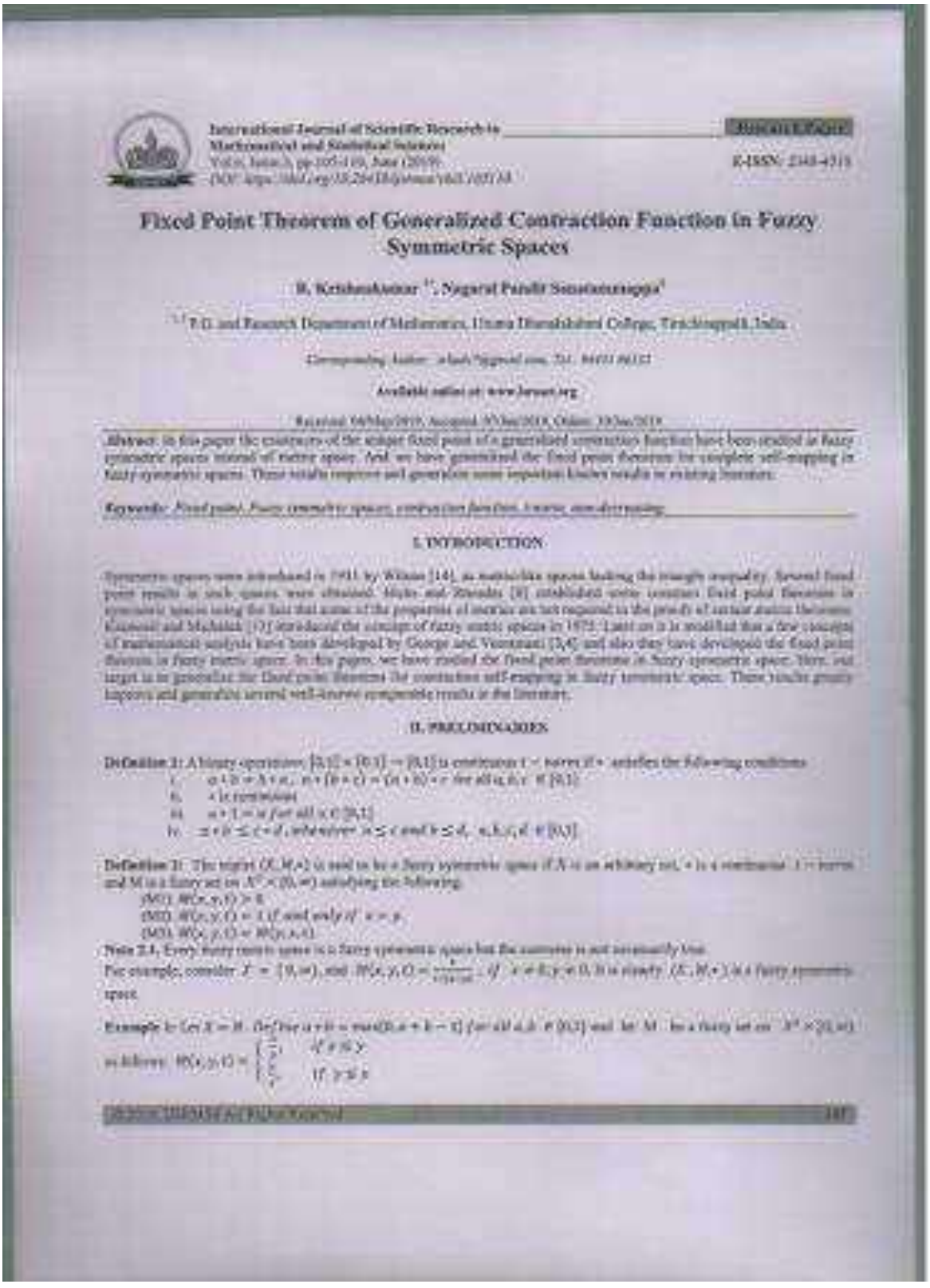
Definition 2.1. A subset A of a space X is said to be

(1) Semi-open [3] if $A \subset cl(intA)$.
(2) α-open [5] if $A \subset int(cl(intA))$.

Email addresses: vseenivasan@gmail.com (V. Seenivasan), rkkmaths@yahoo.co.in (R. Krishnakumar), palaniappan65@gmail.com (V. Palaniappan)

Received: 10 October 2011. Accepted: 15 November 2011

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences
Vol.6, Issue.3, pp.105-110, June (2019)
E-ISSN: 2348-4519

Fixed Point Theorem of Generalized Contraction Function in Fuzzy Symmetric Spaces

B. Krishnakumar [1]*, Nagaraj Patelli Somaiaraniggaa[2]

[1,2] P.G. and Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India

*Corresponding Author: a.bash76@gmail.com, Tel.: 94433 86125

Available online at: www.isroset.org

Received: 06/May/2019, Accepted: 27/Jun/2019, Online: 30/Jun/2019

Abstract. In this paper the existence of the unique fixed point of a generalized contraction function have been studied in fuzzy symmetric spaces instead of metric spaces. And we have generalized the fixed point theorems for complete self-mapping in fuzzy symmetric spaces. These results improves and generalize some important known results in existing literature.

Keywords: *Fixed point, Fuzzy symmetric spaces, contraction function, t-norm, non-decreasing*

I. INTRODUCTION

Symmetric spaces were introduced in 1931 by Wilson [14] as metric-like spaces lacking the triangle inequality. Several fixed point results in such spaces were obtained. Hicks and Rhoades [8] established some common fixed point theorems in symmetric spaces using the fact that some of the properties of metrics are not required in the proofs of certain analytic theorems. Kramosil and Michalek [13] introduced the concept of fuzzy metric spaces in 1975. Later on it is modified that a few concepts of mathematical analysis have been developed by George and Veeramani [3,4] and also they have developed the fixed point theorem in fuzzy metric space. In this paper, we have studied the fixed point theorems in fuzzy symmetric space. Here, our target is to generalize the fixed point theorems for contraction self-mapping in fuzzy symmetric space. These results greatly improve and generalize several well-known comparable results in the literature.

II. PRELIMINARIES

Definition 1: A binary operation $*:[0,1]\times[0,1]\to[0,1]$ is continuous t-norm if $*$ satisfies the following conditions:

i. $a*b=b*a$, $a*(b*c)=(a*b)*c$ for all $a,b,c\in[0,1]$;
ii. $*$ is continuous;
iii. $a*1=a$ for all $a\in[0,1]$;
iv. $a*b\le c*d$, whenever $a\le c$ and $b\le d$, $a,b,c,d\in[0,1]$.

Definition 2: The triplet $(X,M,*)$ is said to be a fuzzy symmetric space if X is an arbitrary set, $*$ is a continuous t-norm and M is a fuzzy set on $X^2\times(0,\infty)$ satisfying the following:

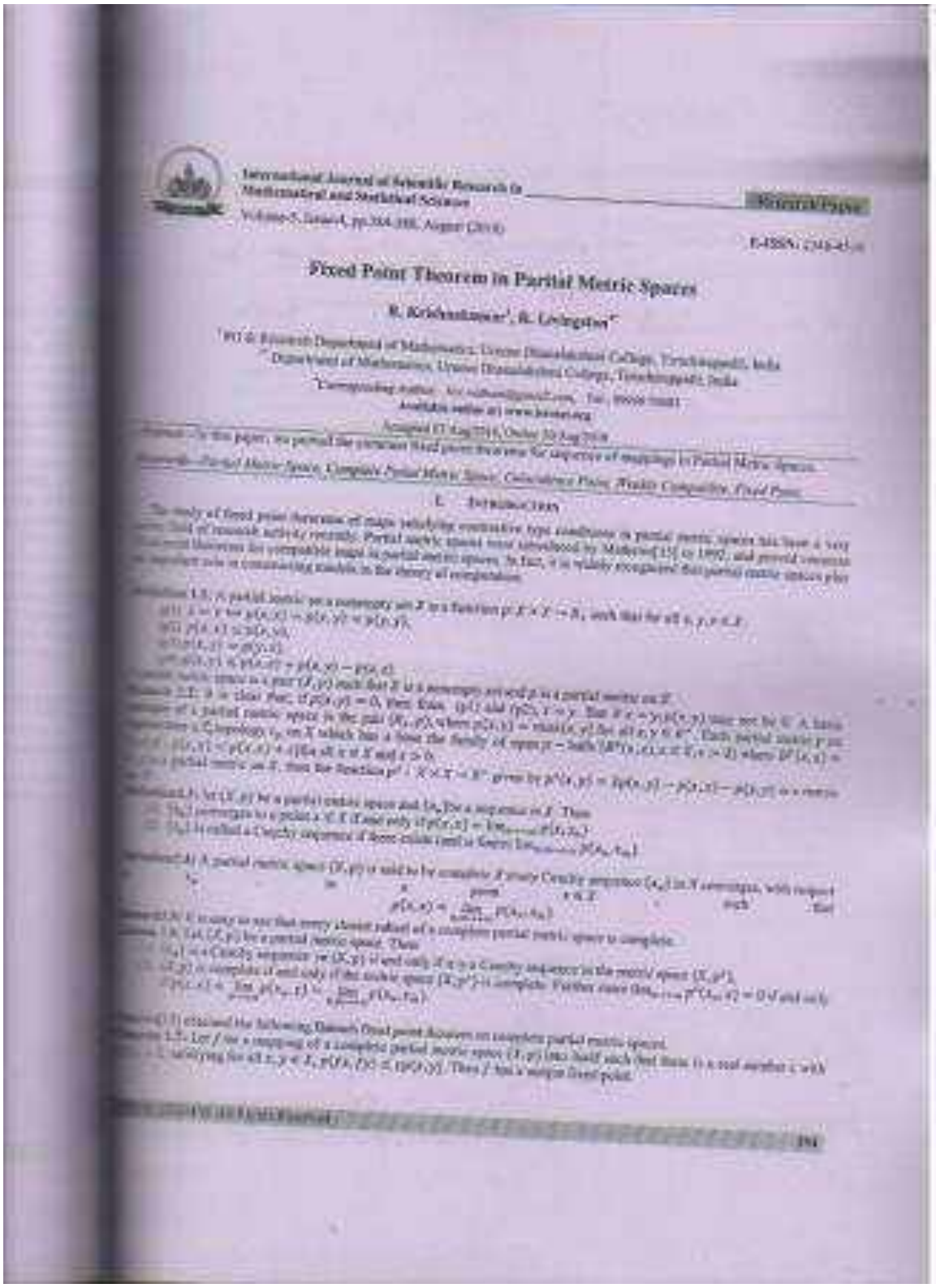
(MS1) $M(x,y,t)>0$;
(MS2) $M(x,y,t)=1$ if and only if $x=y$;
(MS3) $M(x,y,t)=M(y,x,t)$.

Note 2.1. Every fuzzy metric space is a fuzzy symmetric space but the converse is not necessarily true.

For example, consider $X=[0,\infty)$, and $M(x,y,t)=\frac{t}{t+|x-y|}$, if $x\neq 0, y=0$, M is clearly $(X,M,*)$ is a fuzzy symmetric space.

Example 1: Let $X=\mathbb{R}$. Define $a*b=\max\{0,a+b-1\}$ for all $a,b\in[0,1]$ and let M be a fuzzy set on $X^2\times[0,\infty)$ as follows: $M(x,y,t)=\begin{cases}\frac{t}{t}, & \text{if } x\le y\\ \frac{t}{x}, & \text{if } y\le x\end{cases}$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences

Volume-5, Issue-4, pp.304-308, August (2018)

Research Paper

E-ISSN: 2348-4519

Fixed Point Theorem in Partial Metric Spaces

R. Krishnakumar[1], R. Livingston[2]*

[1] P.G. & Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India

[2] Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India

*Corresponding Author: xxx.xxx@gmail.com, Tel.: 99999 99999

Available online at: www.isroset.org

Accepted 07 Aug 2018, Online 30 Aug 2018

Abstract—In this paper, we prove the common fixed point theorem for sequence of mappings in Partial Metric Spaces.

Keywords—Partial Metric Space, Complete Partial Metric Space, Contractive Pairs, Weakly Compatible, Fixed Point.

I. Introduction

The study of fixed point theorems of maps satisfying contractive type conditions in partial metric spaces has been a very active field of research activity recently. Partial metric spaces were introduced by Matthews[12] in 1992, and proved contraction mapping theorems for complete maps in partial metric spaces. In fact, it is widely recognized that partial metric spaces play an important role in constructing models in the theory of computation.

Definition 1.1. A partial metric on a nonempty set X is a function $p: X \times X \to R$, such that for all $x, y, z \in X$:

(p1) $x = y \Leftrightarrow p(x,x) = p(x,y) = p(y,y)$,

(p2) $p(x,x) \leq p(x,y)$,

(p3) $p(x,y) = p(y,x)$,

(p4) $p(x,y) \leq p(x,z) + p(z,y) - p(z,z)$.

A partial metric space is a pair (X, p) such that X is a nonempty set and p is a partial metric on X.

Remark 1.2. It is clear that, if $p(x,y) = 0$, then from (p1) and (p2), $x = y$. But if $x = y$, $p(x,y)$ may not be 0. A basic example of a partial metric space is the pair (R_0^+, p), where $p(x,y) = \max\{x,y\}$ for all $x, y \in R_0^+$. Each partial metric p on X generates a T_0 topology τ_p on X which has as a base the family of open p – balls $\{B^p(x,\varepsilon): x \in X, \varepsilon > 0\}$ where $B^p(x,\varepsilon) = \{y \in X: p(x,y) < p(x,x) + \varepsilon\}$ for all $x \in X$ and $\varepsilon > 0$.

If p is a partial metric on X, then the function $p^s: X \times X \to R^+$ given by $p^s(x,y) = 2p(x,y) - p(x,x) - p(y,y)$ is a metric on X.

Definition 1.3. Let (X, p) be a partial metric space and $\{x_n\}$ be a sequence in X. Then

(i) $\{x_n\}$ converges to a point $x \in X$ if and only if $p(x,x) = \lim_{n \to \infty} p(x, x_n)$.

(ii) $\{x_n\}$ is called a Cauchy sequence if there exists (and is finite) $\lim_{n,m \to \infty} p(x_n, x_m)$.

Definition 1.4. A partial metric space (X, p) is said to be complete if every Cauchy sequence $\{x_n\}$ in X converges, with respect to τ_p, to a point $x \in X$ such that $p(x,x) = \lim_{n,m \to \infty} p(x_n, x_m)$.

Remark 1.5. It is easy to see that every closed subset of a complete partial metric space is complete.

Lemma 1.6. Let (X, p) be a partial metric space. Then

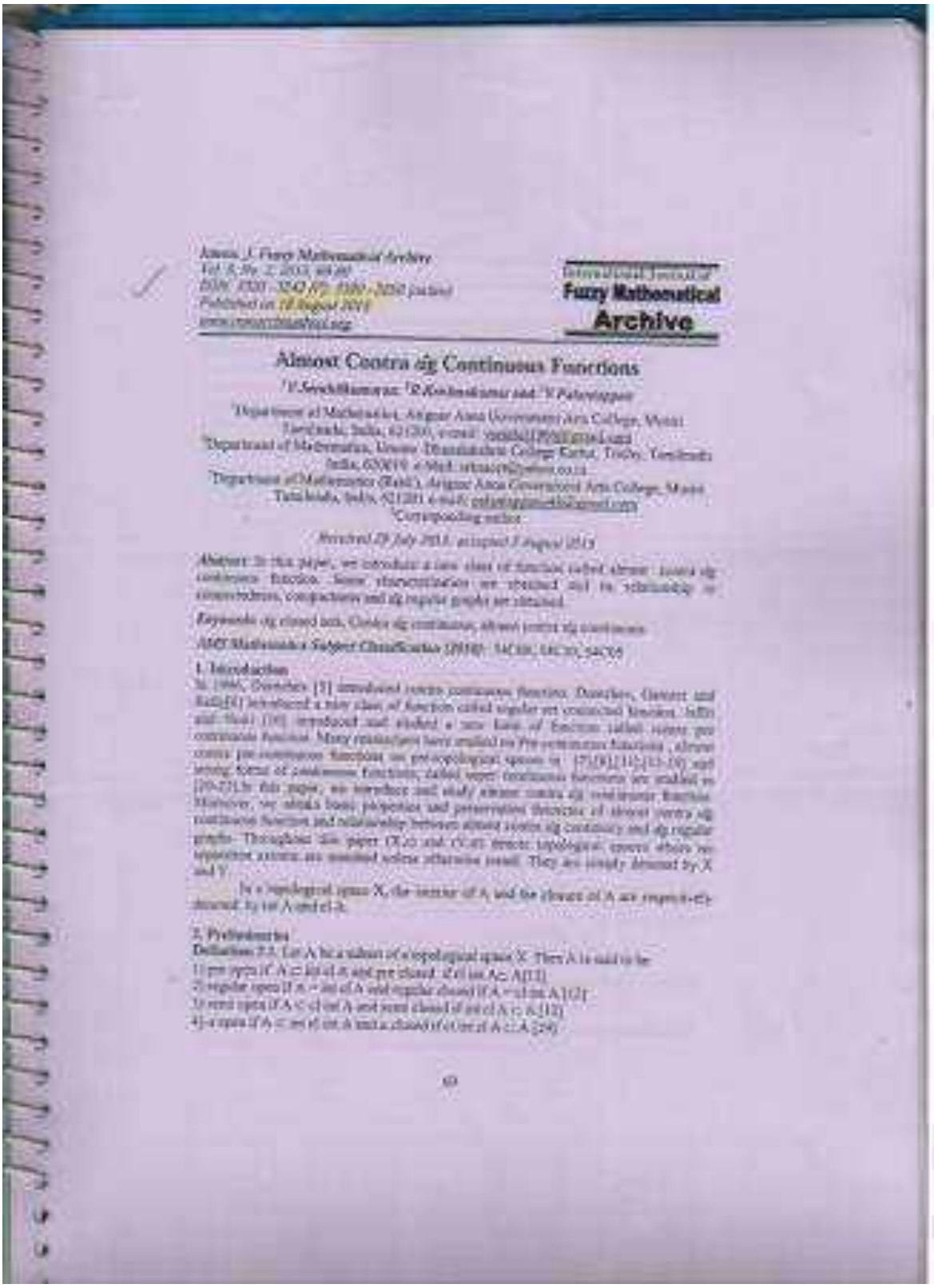
(i) $\{x_n\}$ is a Cauchy sequence in (X, p) if and only if it is a Cauchy sequence in the metric space (X, p^s).

(ii) (X, p) is complete if and only if the metric space (X, p^s) is complete. Further since $\lim_{n \to \infty} p^s(x_n, x) = 0$ if and only if $p(x,x) = \lim_{n \to \infty} p(x_n, x) = \lim_{n,m \to \infty} p(x_n, x_m)$.

Recently [1] obtained the following Banach fixed point theorem on complete partial metric spaces.

Theorem 1.7. Let f be a mapping of a complete partial metric space (X, p) into itself such that there is a real number c with $0 \leq c < 1$, satisfying for all $x, y \in X$, $p(fx, fy) \leq cp(x, y)$. Then f has a unique fixed point.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Annals of Fuzzy Mathematics and Informatics
Vol. 8, No. 2, (March 2014), pp. 287–301
ISSN: 2093–9310 (print version) ISSN: 2093–9930 (electronic version)
Published on 18 August 2014
www.afmi.or.kr

International Journal of
Fuzzy Mathematical
Archive

Almost Contra αg Continuous Functions

P. Sivakamasundari, P. Kavitha Kumari and V. Rajendran

Department of Mathematics, Aringar Anna Government Arts College, Musiri, Tamilnadu, India, 621211. e-mail: sivakamiv@yahoo.co.in
Department of Mathematics, Urumu Dhanalakshmi College, Karur, TrichY, Tamilnadu, India, 639019. e-Mail: vrkmaths@yahoo.co.in
Department of Mathematics (Retd.), Aringar Anna Government Arts College, Musiri, Tamilnadu, India, 621211. e-mail: rajendrangovindaswamy@gmail.com
*Corresponding author

Received 29 July 2013; accepted 5 August 2013

Abstract. In this paper, we introduce a new class of function called almost contra αg continuous function. Some characterizations are obtained and its relationship to contra-θ-cts, contra-cts and αg regular graphs are obtained.

Keywords: αg closed sets, Contra αg continuous, almost contra αg continuous

AMS Mathematics Subject Classification (2010): 54C08, 54C10, 54C05

1. Introduction

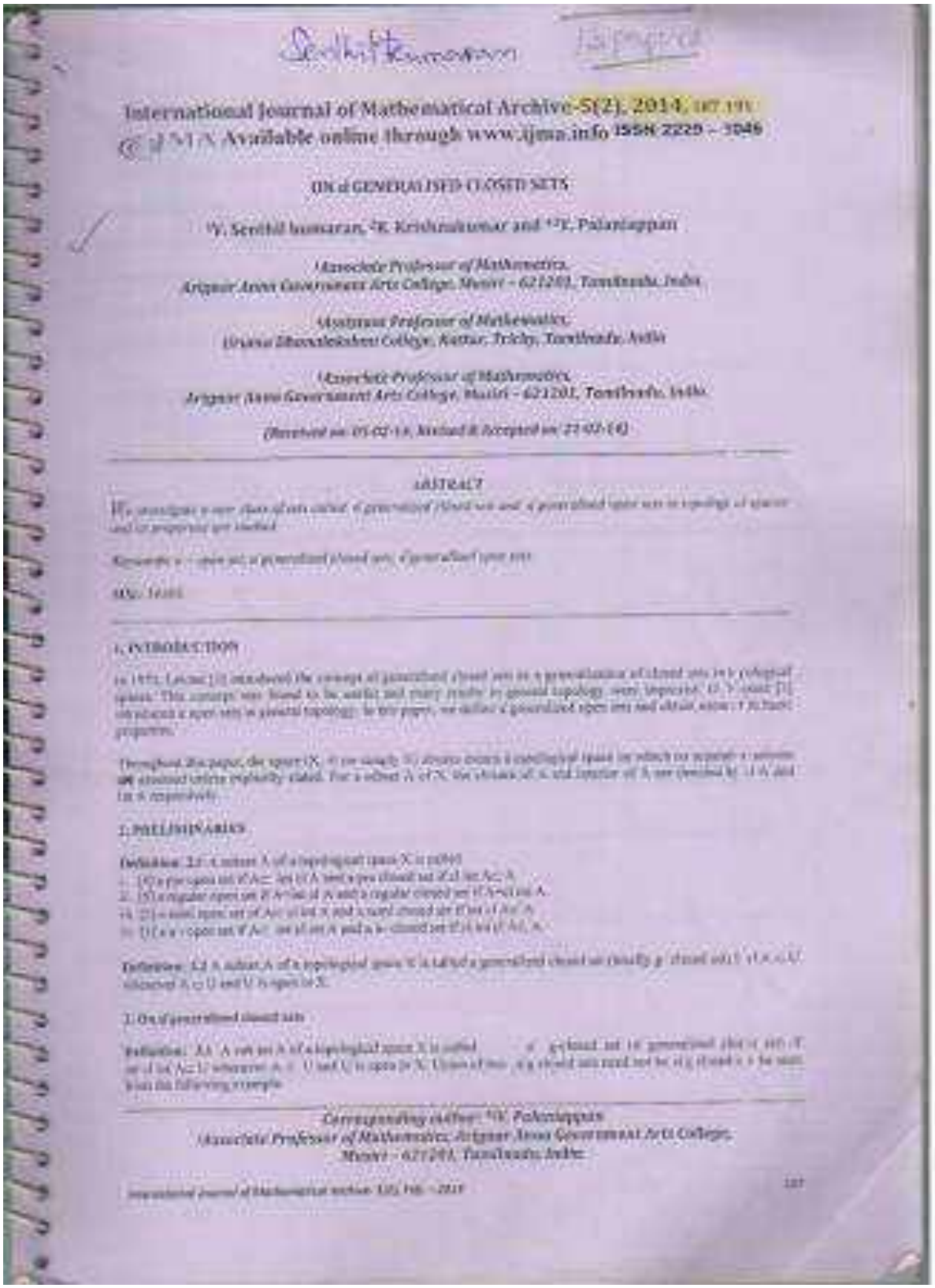
In 1996, Dontchev [5] introduced contra continuous functions. Dontchev, Ganster and Rajh[6] introduced a new class of functions called regular set connected functions. Jafari and Noiri [10] introduced and studied a new form of functions called contra pre continuous functions. Many researchers have studied on Pre connected functions , almost contra pre continuous functions on pre-topological spaces in [7],[8],[11]-[13]-[19] and strong forms of continuous functions, called super continuous functions are studied in [20]-[23].In this paper, we introduce and study almost contra αg continuous functions. Moreover, we obtain basic properties and preservation theorems of almost contra αg continuous function and relationship between almost contra αg continuity and αg regular graphs. Throughout this paper (X,τ) and (Y,σ) denote topological spaces where no separation axioms are assumed unless otherwise stated. They are simply denoted by X and Y.

In a topological space X, the interior of A and the closure of A are respectively denoted by int A and cl A.

2. Preliminaries

Definition 2.1. Let A be a subset of a topological space X. Then A is said to be
1) pre open [9] if $A \subset \text{int cl } A$ and pre closed if $\text{cl int } A \subset A$[11]
2) regular open if $A = \text{int cl } A$ and regular closed if $A = \text{cl int } A$.[12]
3) semi open if $A \subset \text{cl int } A$ and semi closed if $\text{int cl } A \subset A$.[11]
4) α open if $A \subset \text{int cl int } A$ and α closed if $\text{cl int cl } A \subset A$.[24]

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematical Archive-5(2), 2014, 107-111
Available online through www.ijma.info ISSN 2229 – 5046

ON ĝ GENERALISED CLOSED SETS

[1]V. Senthil kumaran, [2]K. Krishnakumar and [3]E. Palaniappan

[1]Associate Professor of Mathematics,
Arignar Anna Government Arts College, Musiri – 621201, Tamilnadu, India

[2]Assistant Professor of Mathematics,
Urumu Dhanalakshmi College, Kattur, Trichy, Tamilnadu, India

[3]Associate Professor of Mathematics,
Arignar Anna Government Arts College, Musiri – 621201, Tamilnadu, India.

(Received on: 01-02-14, Revised & Accepted on: 27-02-14)

ABSTRACT

We investigate a new class of sets called ĝ generalized closed sets and ĝ generalized open sets in topological spaces and its properties are studied.

Keywords: ĝ – open set, ĝ generalized closed sets, ĝ generalized open sets.

AMS: 54A05.

1. INTRODUCTION

In 1970, Levine [3] introduced the concept of generalized closed sets as a generalization of closed sets in a topological spaces. This concept was found to be useful and many results in general topology were improved. O. Ravi [5] introduced ĝ open sets in general topology. In this paper, we define ĝ generalized open sets and obtain some of its basic properties.

Throughout this paper, the spaces (X, τ) or simply X always means a topological space on which no separation axioms are assumed unless explicitly stated. For a subset A of X, the closure of A and interior of A are denoted by cl(A) and int(A) respectively.

2. PRELIMINARIES

Definition 2.1: A subset A of a topological space X is called
1. (1) a pre open set if A ⊆ int(cl(A)) and a pre closed set if cl(int(A)) ⊆ A.
2. (2) a regular open set if A = int(cl(A)) and a regular closed set if A = cl(int(A)).
3. (3) a semi open set if A ⊆ cl(int(A)) and a semi closed set if int(cl(A)) ⊆ A.
4. (4) a α-open set if A ⊆ int(cl(int(A))) and a α-closed set if cl(int(cl(A))) ⊆ A.

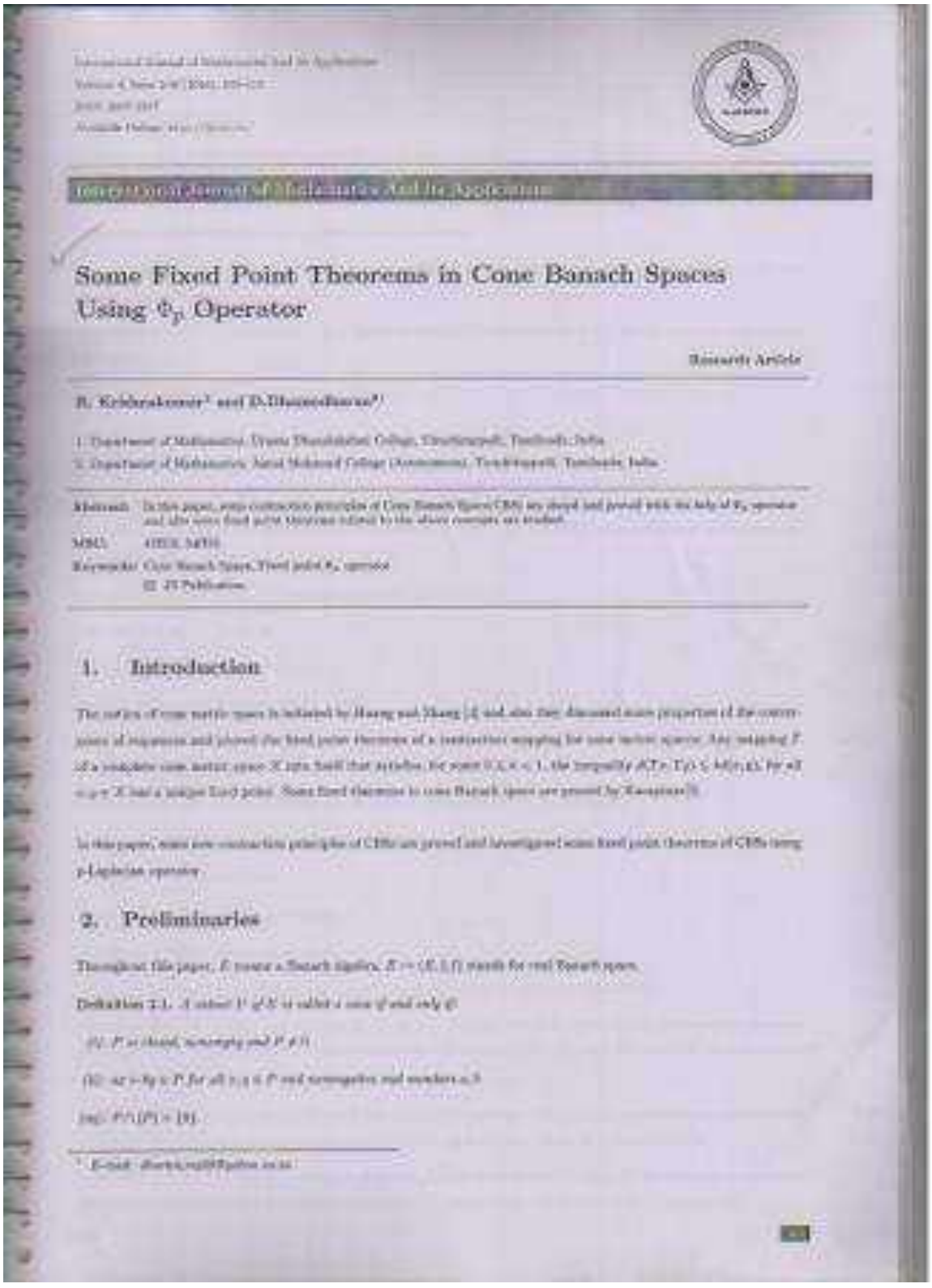
Definition 2.2: A subset A of a topological space X is called a generalized closed set (briefly g-closed set) if cl(A) ⊆ U whenever A ⊆ U and U is open in X.

2.1 ĝ-generalized closed sets

Definition 2.1: A set set A of a topological space X is called a ĝ-closed set (or generalized pre regular closed set) if pcl(A) ⊆ U whenever A ⊆ U and U is open in X. Clearly every closed set is ĝ-closed set but not conversely in general as the following example

Corresponding Author: [3]E. Palaniappan
Associate Professor of Mathematics, Arignar Anna Government Arts College,
Musiri – 621201, Tamilnadu, India.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics And its Applications

Some Fixed Point Theorems in Cone Banach Spaces Using Φ_p Operator

Research Article

R. Krishnakumar[1] and D.Dhamodharan[2]*

1. Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India.
2. Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli, Tamilnadu, India.

Abstract: In this paper, some contraction principles in Cone Banach Spaces (CBS) are proved and proved with the help of Φ_p operator and also some fixed point theorems related to the above concepts are studied.

MSC: 47H10, 54H25

Keywords: Cone Banach Space, Fixed point, Φ_p operator.

© JS Publication.

1. Introduction

The notion of cone metric spaces is initiated by Huang and Zhang [4] and also they discussed some properties of the convergence of sequences and proved the fixed point theorems of a contraction mapping for cone metric spaces. Any mapping T of a complete cone metric space X into itself that satisfies the inequality $d(Tx,Ty) \leq kd(x,y)$, for all $x, y \in X$ and k is a constant $0 \leq k < 1$, has a unique fixed point. Some fixed theorems in cone Banach spaces are proved by Kaewcharoen [3].

In this paper, some new contraction principles of CBSs are proved and investigated some fixed point theorems of CBSs using p-Laplacian operator.

2. Preliminaries

Throughout this paper, E denote a Banach algebra, $E = (E, \|.\|)$ stands for real Banach space.

Definition 2.1. *A subset P of E is called a cone if and only if:*

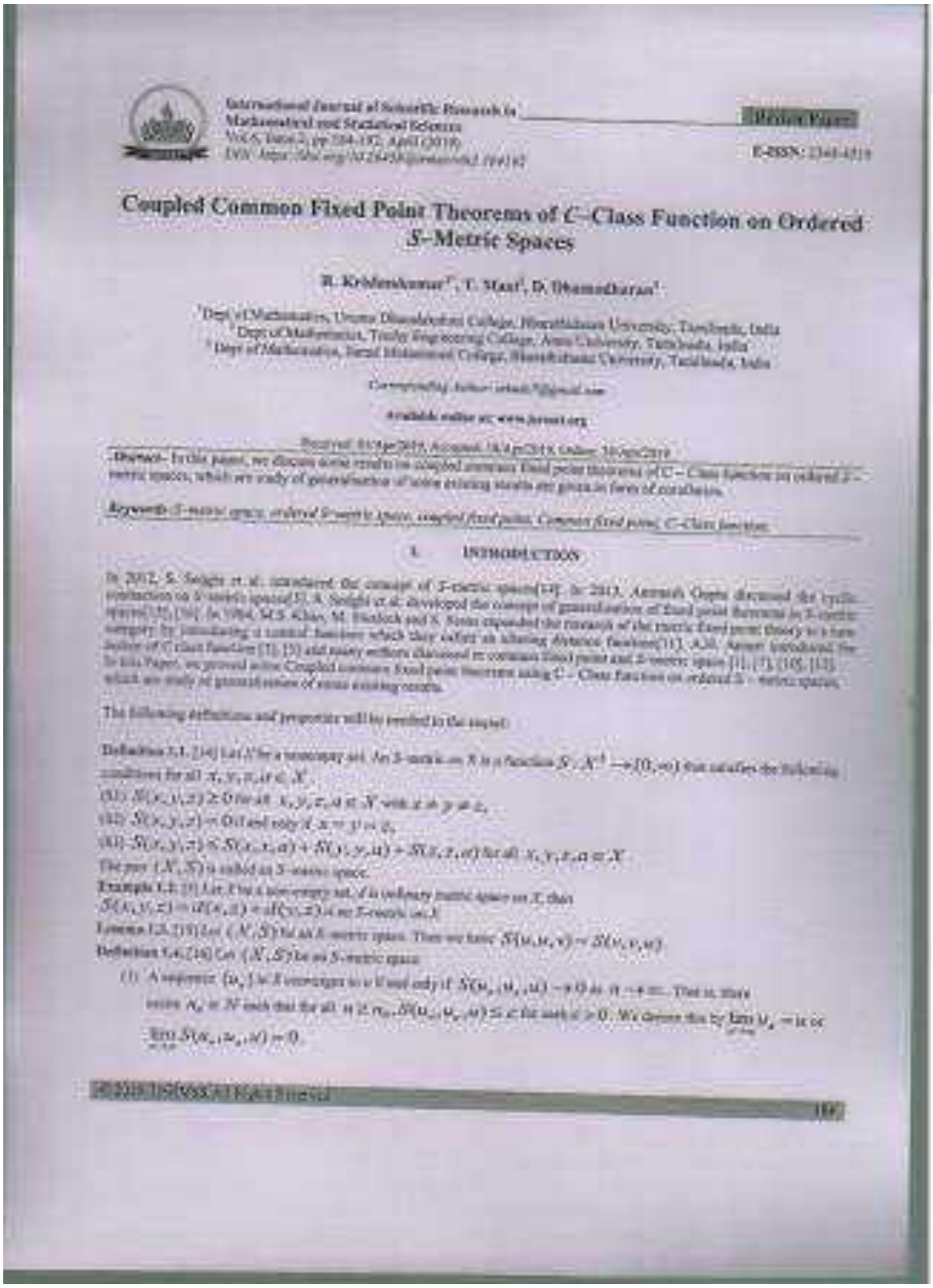
(i) P is closed, nonempty and $P \neq \{0\}$;

(ii) $ax + by \in P$ for all $x, y \in P$ and nonnegative real numbers a, b;

(iii) $P \cap (-P) = \{0\}$.

* E-mail: dhamo.maths@yahoo.co.in

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences
Vol.6, Issue.2, pp.104-107, April (2019)
E-ISSN: 2348-4519

Coupled Common Fixed Point Theorems of C–Class Function on Ordered S–Metric Spaces

R. Krishnakumar[1*], T. Mani[2], D. Dhamodharan[3]

[1]Dept. of Mathematics, Urumu Dhanalakshmi College, Bharathidasan University, Tamilnadu, India
[2]Dept. of Mathematics, Trichy Engineering College, Anna University, Tamilnadu, India
[3]Dept. of Mathematics, Jamal Mohamed College, Bharathidasan University, Tamilnadu, India

*Corresponding Author: rmaths7@gmail.com

Available online at: www.isroset.org

Received: 01/Apr/2019, Accepted: 18/Apr/2019, Online: 30/Apr/2019

Abstract- In this paper, we discuss some results on coupled common fixed point theorems of C – Class function on ordered S – metric spaces, which are study of generalization of some existing results are given in form of corollaries.

Keywords- S-metric space, ordered S-metric space, coupled fixed point, Common fixed point, C-Class function

I. INTRODUCTION

In 2012, S. Sedghi et al. introduced the concept of S-metric space[14]. In 2013, Aminath Gupta discussed the cyclic contraction on S-metric spaces[5]. S. Sedghi et al. developed the concept of generalization of fixed point theorems in S-metric spaces[15], [16]. In 1984, M.S. Khan, M. Swaleh and S. Sessa expanded the research of the metric fixed point theory to a new category by introducing a control function which they called as altering distance function[11]. A.H. Ansari introduced the notion of C class function [1], [2] and many authors discussed on common fixed point and S-metric space [1], [7], [10], [12]. In this Paper, we proved some Coupled common fixed point theorems using C – Class Function on ordered S – metric spaces, which are study of generalization of some existing results.

The following definitions and properties will be needed in the sequel:

Definition 1.1. [14] Let X be a nonempty set. An S-metric on X is a function $S: X^3 \to [0,\infty)$ that satisfies the following conditions for all $x, y, z, a \in X$,

(S1) $S(x,y,z) \geq 0$ for all $x, y, z, a \in X$ with $x \neq y \neq z$,

(S2) $S(x,y,z) = 0$ if and only if $x = y = z$,

(S3) $S(x,y,z) \leq S(x,x,a) + S(y,y,a) + S(z,z,a)$ for all $x, y, z, a \in X$.

The pair (X,S) is called an S-metric space.

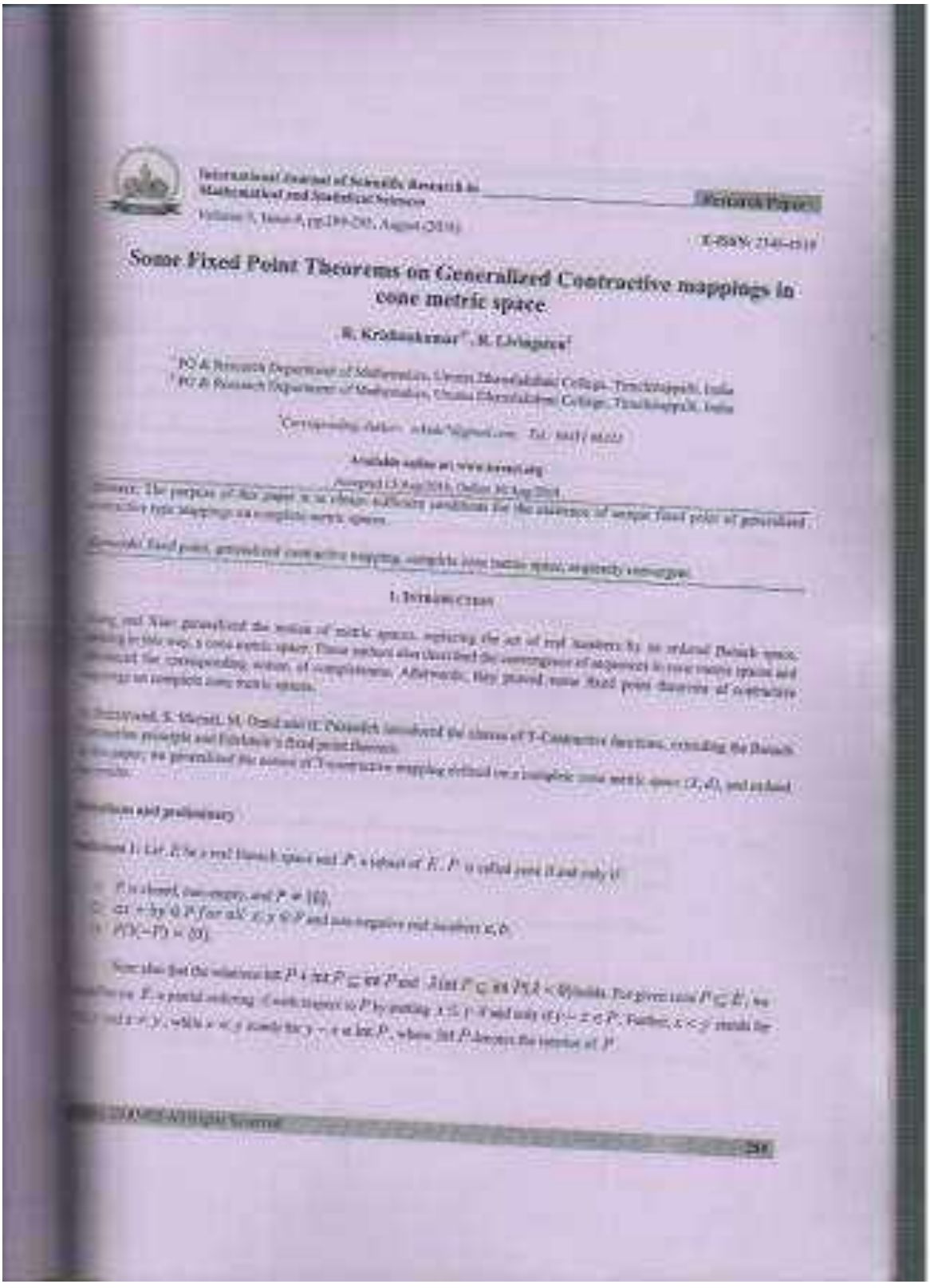
Example 1.2. [3] Let X be a non-empty set, d is ordinary metric space on X, then $S(x,y,z) = d(x,z) + d(y,z)$ is an S-metric on X.

Lemma 1.3. [3] Let (X,S) be an S-metric space. Then we have $S(u,u,v) = S(v,v,u)$.

Definition 1.4. [14] Let (X,S) be an S-metric space.

(1) A sequence $\{u_n\}$ in X converges to $u \in X$ if and only if $S(u_n,u_n,u) \to 0$ as $n \to +\infty$. That is, there exists $N_0 \in \mathbb{N}$ such that for all $n \geq n_0$, $S(u_n,u_n,u) \leq \varepsilon$ for each $\varepsilon > 0$. We denote this by $\lim_{n\to\infty} u_n = u$ or $\lim_{n,m\to\infty} S(u_n,u_n,u) = 0$.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences

Research Paper

Volume 3, Issue 4, pp.249-251, August (2016)

E-ISSN: 2348-4519

Some Fixed Point Theorems on Generalized Contractive mappings in cone metric space

R. Krishnakumar[1], M. Divagaran[2]

[1] PG & Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India
[2] PG & Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli, India

*Corresponding Author: rohak76@gmail.com, Tel.: 9443[illegible]

Available online at: www.isroset.org

Accepted 15 Aug 2016, Online 30 Aug 2016

Abstract: The purpose of this paper is to obtain sufficient conditions for the existence of unique fixed point of generalized contractive type mappings on complete metric spaces.

Keywords: Fixed point, generalized contractive mapping, complete cone metric space, sequentially convergent.

I. INTRODUCTION

[illegible] and Xiao generalized the notion of metric spaces, replacing the set of real numbers by an ordered Banach space, and in this way, a cone metric space. These authors also described the convergence of sequences in cone metric spaces and introduced the corresponding notion of completeness. Afterwards, they proved some fixed point theorems of contractive mappings on complete cone metric spaces.

Rezapour, S. Shahzad, M. Deghan and H. Dehaish introduced the classes of T-Contractive functions, extending the Banach contraction principle and Edelstein's fixed point theorem.

In this paper, we generalized the notion of T-contractive mapping defined on a complete cone metric space (X, d), and related fixed point results.

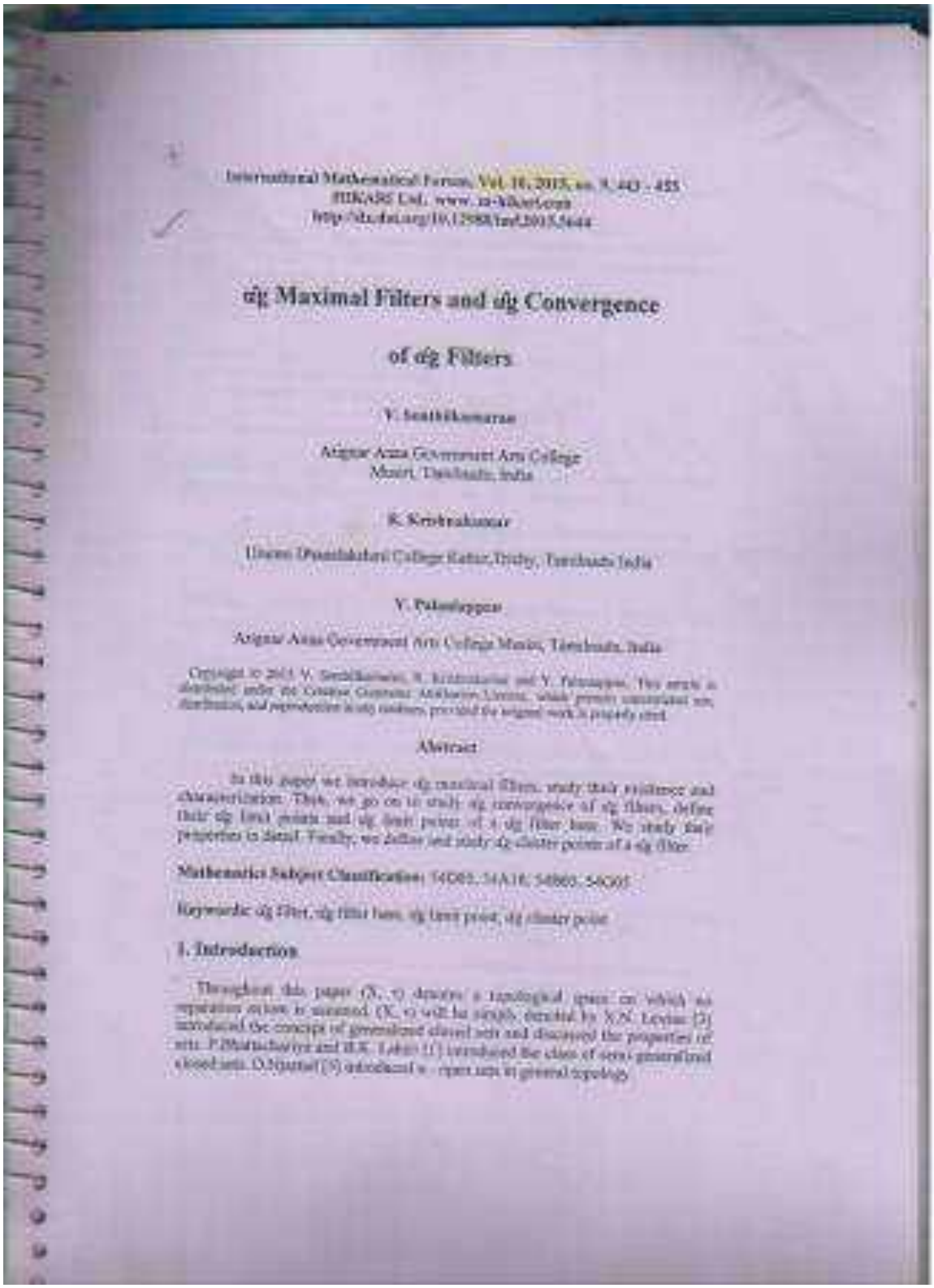
II. DEFINITIONS AND PRELIMINARIES

Definition 1: Let E be a real Banach space and P a subset of E. P is called cone if and only if

1. P is closed, non-empty, and $P \neq \{0\}$;
2. $ax + by \in P$ for all $x, y \in P$ and non-negative real numbers a, b;
3. $P \cap (-P) = \{0\}$.

Note that for the relation $\text{int } P + \text{int } P \subseteq \text{int } P$ and $\lambda \text{int } P \subseteq \text{int } P$ $(\forall \lambda > 0)$ holds. For given cone $P \subseteq E$, we define a partial ordering $\leq$ with respect to P by putting $x \leq y$ if and only if $y - x \in P$. Further, $x < y$ stands for $x \leq y$ and $x \neq y$, while $x \ll y$ stands for $y - x \in \text{int } P$, where $\text{int } P$ denotes the interior of P.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Mathematical Forum, Vol. 10, 2015, no. 5, 443 - 455
HIKARI Ltd, www.m-hikari.com
http://dx.doi.org/10.12988/imf.2015.5444

$\sigma\hat{g}$ Maximal Filters and $\sigma\hat{g}$ Convergence of $\sigma\hat{g}$ Filters

V. Seethikumaran

Arignar Anna Government Arts College
Musiri, Tamilnadu, India

K. Krishnakumar

Urumu Dhanalakshmi College Kattur,Trichy, Tamilnadu India

V. Palaniappan

Arignar Anna Government Arts College Musiri, Tamilnadu, India

Copyright © 2015 V. Seethikumaran, K. Krishnakumar and V. Palaniappan. This article is distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

In this paper we introduce $\sigma\hat{g}$ maximal filters, study their existence and characterization. Then, we go on to study $\sigma\hat{g}$ convergence of $\sigma\hat{g}$ filters, define their $\sigma\hat{g}$ limit points and $\sigma\hat{g}$ limit points of a $\sigma\hat{g}$ filter base. We study their properties in detail. Finally, we define and study $\sigma\hat{g}$ cluster points of a $\sigma\hat{g}$ filter.

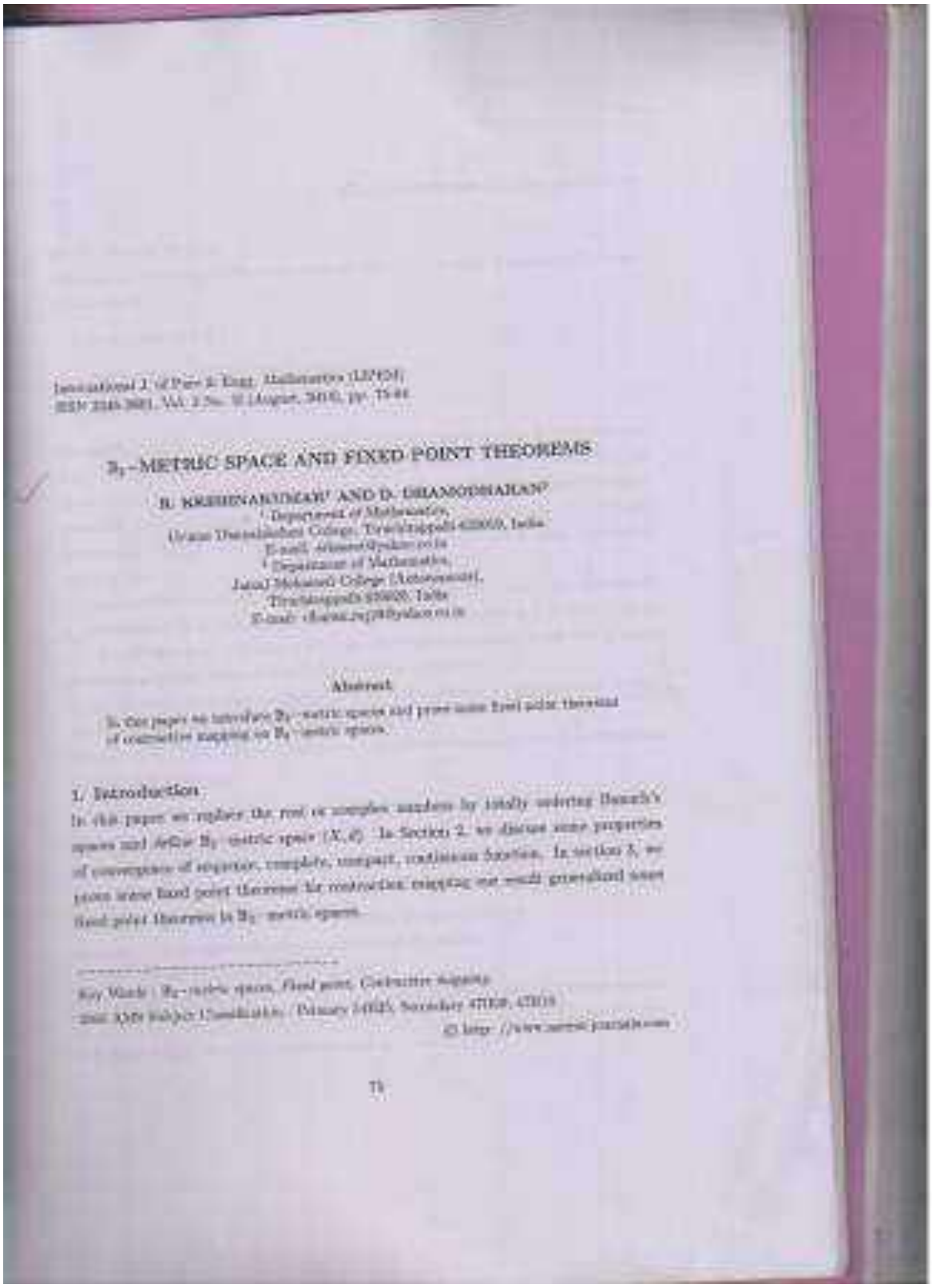
Mathematics Subject Classification: 54D05, 54A10, 54B05, 54C05

Keywords: $\sigma\hat{g}$ filter, $\sigma\hat{g}$ filter base, $\sigma\hat{g}$ limit point, $\sigma\hat{g}$ cluster point

1. Introduction

Throughout this paper (X, τ) denotes a topological space on which no separation axiom is assumed. (X, τ) will be simply denoted by X.N. Levine [2] introduced the concept of generalized closed sets and discussed the properties of sets. P.Bhattacharyya and B.K. Lahiri [1] introduced the class of semi generalized closed sets. O.Njastad [5] introduced α - open sets in general topology.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Pure & Appl. Mathematics (IJPAM)
ISSN 2348-3881, Vol. 3 No. 2 August 2016, pp. 75-84

$\mathbb{B}_3$-METRIC SPACE AND FIXED POINT THEOREMS

R. KRISHNAKUMAR[1] AND D. DHAMODHARAN[2]
[1] Department of Mathematics,
Urumu Dhanalakshmi College, Tiruchirappalli-620019, India.
E-mail: krishnar@yahoo.co.in
[2] Department of Mathematics,
Jamal Mohamed College (Autonomous),
Tiruchirappalli-620020, India.
E-mail: dhamo.raj@rediffmail.com

Abstract

In this paper we introduce $\mathbb{B}_3$-metric spaces and prove some fixed point theorems of contractive mapping on $\mathbb{B}_3$-metric spaces.

1. Introduction

In this paper, we replace the real or complex numbers by totally ordering Banach's spaces and define $\mathbb{B}_3$- metric space (X, d). In Section 2, we discuss some properties of convergence of sequence, complete, compact, continuous function. In section 3, we prove some fixed point theorems for contractive mapping our result generalized some fixed point theorems in $\mathbb{B}_3$- metric spaces.

Key Words : $\mathbb{B}_3$-metric space, Fixed point, Contractive mapping
2010 AMS Subject Classification: Primary 54H25, Secondary 47H09, 47H10

© http://www.ijpam.eu

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Global Journal of Pure and Applied Mathematics.
ISSN 0973-1768 Volume 15, Number 6 (2019), pp. 859-873
© Research India Publications
http://www.ripublication.com/gjpam.htm

Fixed Point Theorems in Strong M-Fuzzy Metric Space for Weakly Compatible

A.Muralitraj

PG and Research Department of Mathematics,
Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India.
Email:Mrajpsnl@gmail.com

S.Sunithradevi

PG and Research Department of Mathematics,
Urumu Dhanalakshmi College, Tiruchirappalli,Tamilnadu, India.
Email:Msunithradevi999@gmail.com

Abstract

In this paper, We examine the common fixed point theorem of weakly compatible mapping and weak** commutative satisfying the implicit relation in strong M- fuzzy metric space.

Keywords: Fuzzy set, M-fuzzy metric space, Strong M-fuzzy metric space, weakly compatible mapping, weak** commutative.

1. INTRODUCTION

Zadeh(1965) [9]introduced the fuzzy set. Kramosil and Michalek(1975) [3]introduced the concept of fuzzy metric space. Popa (1997,1999) [5][6]introduced some fixed point theorems satisfying certain implicit relation. Dhage (1992)[1] introduced the notion of generalized metric or D-metric space and proved several fixed point theorem.

Sedghi and Shobe (2006)[7] gave D* metric space as modification of the definition of D-metric introduced by Dhage and also defined M- fuzzy metric space by using the concept of D* metric. Grepal, et al (2010) [2] introduced strong fuzzy metric space and proved a fixed point theorem.

In this paper, we obtained fixed point theorem by using implict relation in strong M-fuzzy metric space.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Fixed point theorems for fuzzy maps in b-metric space

A.Muraliraj[1] S.Sumithradevi[2]
[1]PG and Research Department of Mathematics,
Cauvery (Kumbakonam) College, Thuthoorpettai, Tamilnadu, India
[1]Email:id:murgana@gmail.com
[2]Email:id:sumithradevi9965@gmail.com

Abstract

In this paper, we obtain fixed point for fuzzy mapping in b-metric space. Our theorem is generalized and improve the known results.

Keywords: *Fixed point, Metric space, b- Metric space, Fuzzy mapping, grade of membership, Hausdorff metric space.*

1. Introduction

Fuzzy set was introduced by Zadeh[10]. Heilpern[7] first introduced the concept of fuzzy contractive mappings in metric spaces. Rhoades[6] obtained many fixed point results for fuzzy mapping in metric spaces.

In this paper, we consider approximate quantity as a sub collection of fuzzy set and use fuzzy mapping in b-metric space to show there exists a fixed point.

2. Basic Preliminaries

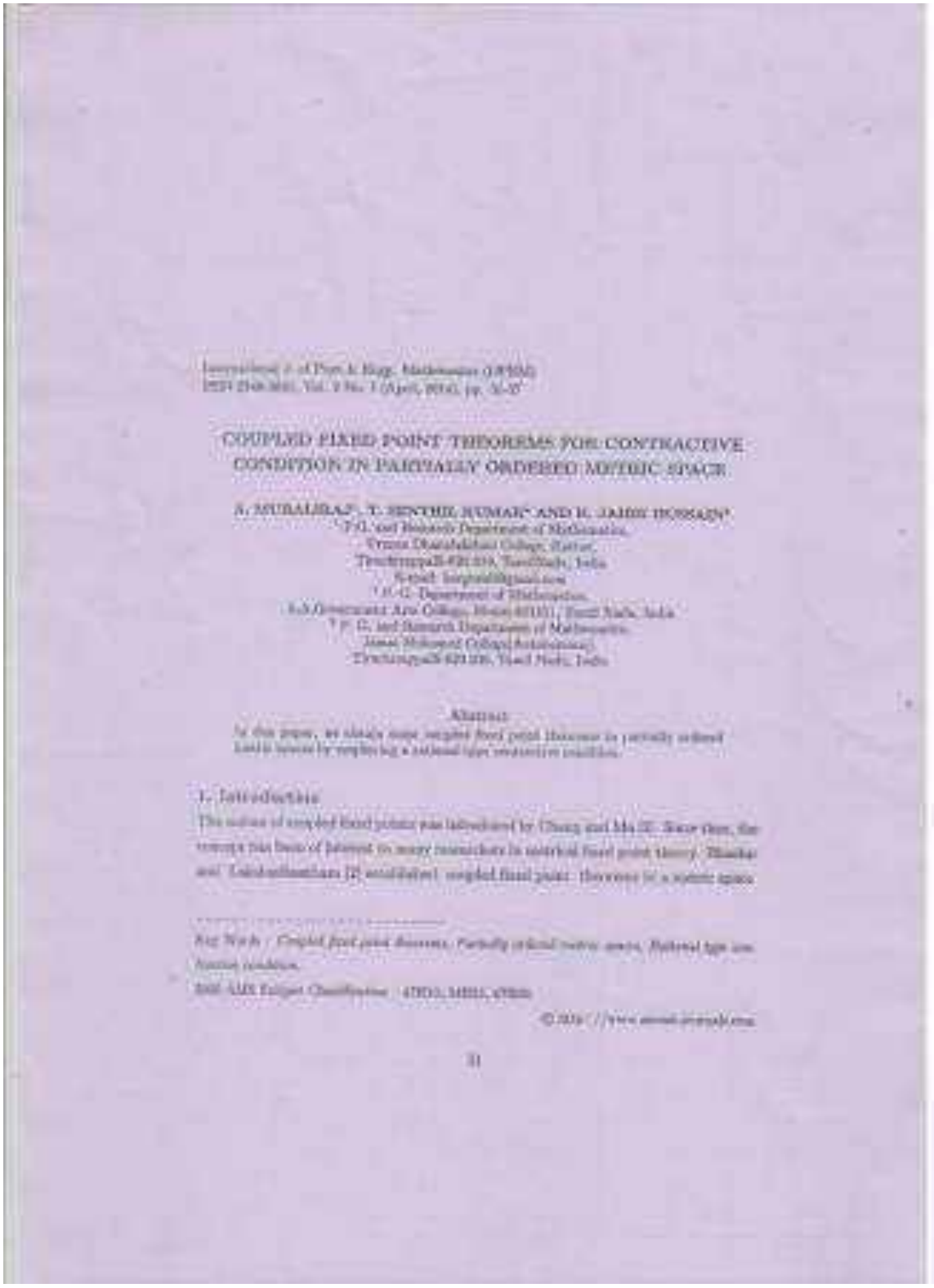
Definition:2.1[3]

Let X be any nonempty set and $b \geq 1$ be any given real number. A function $d: X \times X \to R^+$ is called a b- metric, if it satisfies the following conditions for all $x,y,z \in X$.

- $d(x,y) = 0$ if and only if $x=y$
- $d(x,y) = d(y,x)$
- $d(x,z) \leq b[d(x,y) + d(y,z)]$

then the pair (X,d) is called a b- metric space.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Pure & Engg. Mathematics (IJPEM)
ISSN 2348-3881, Vol. 3 No. 1 (April, 2016), pp. 31-37

COUPLED FIXED POINT THEOREMS FOR CONTRACTIVE CONDITION IN PARTIALLY ORDERED METRIC SPACE

A. MURALIRAJ[1], T. SENTHIL KUMAR[2] AND K. JAHIR HUSSAIN[3]
[1] P.G. and Research Department of Mathematics,
Urumu Dhanalakshmi College, Kattur,
Tiruchirappalli-620 019, Tamilnadu, India.
E-mail: muraliraj@gmail.com
[2] U.G. Department of Mathematics,
S.S.Government Arts College, Musiri-621211, Tamil Nadu, India.
[3] P. G. and Research Department of Mathematics,
Jamal Mohamed College (Autonomous),
Tiruchirappalli-620 020, Tamil Nadu, India.

Abstract
In this paper, we obtain some coupled fixed point theorems in partially ordered metric spaces by employing a rational type contractive condition.

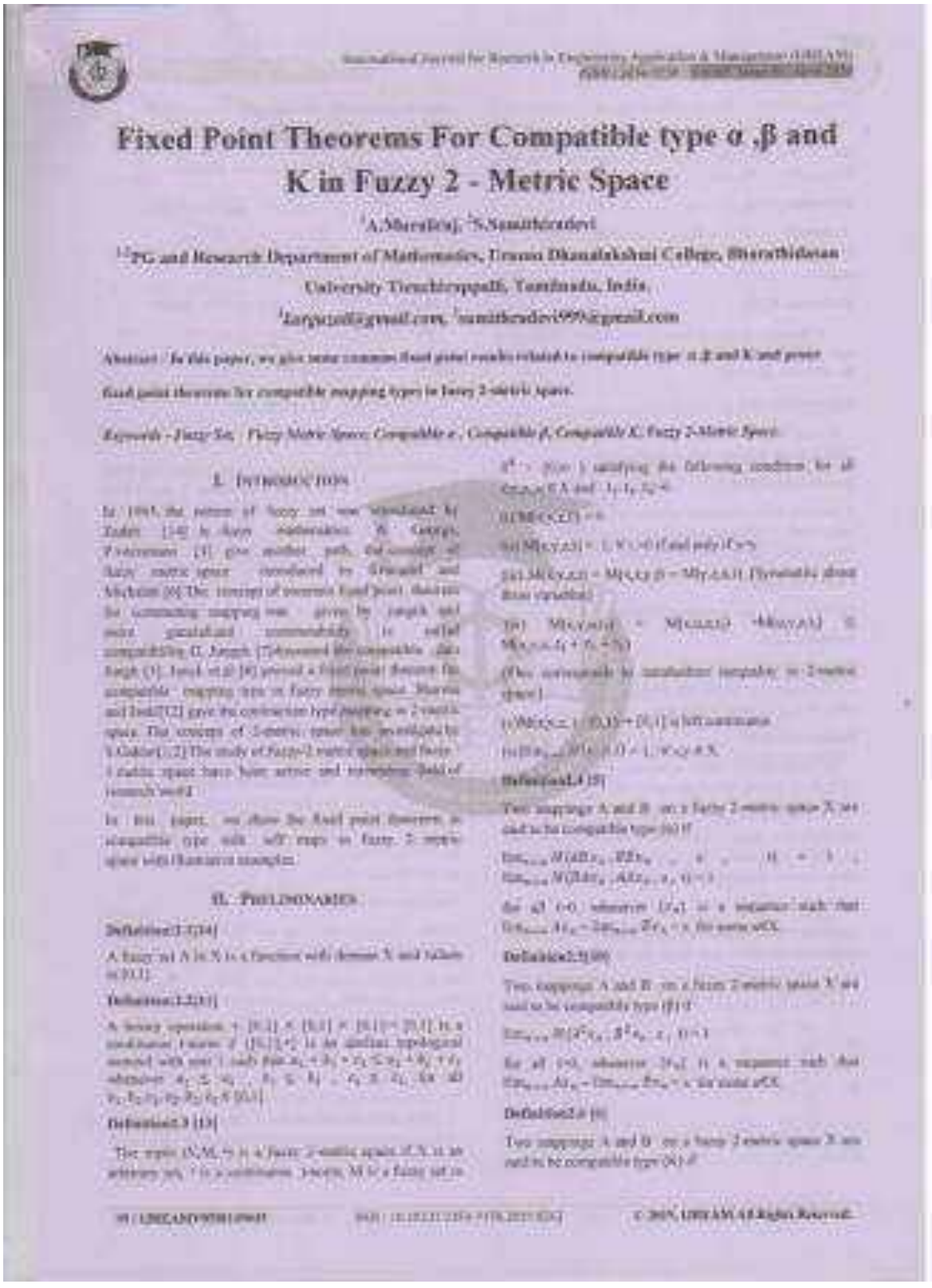
1. Introduction

The notion of coupled fixed points was introduced by Guoq and Ma [2]. Since then, the concept has been of interest to many researchers in nonlinear fixed point theory. Bhaskar and Lakshmikantham [2] established coupled fixed point theorems for a mixed mono

Key Words : Coupled fixed point theorems, Partially ordered metric spaces, Rational type contractive condition.
2000 AMS Subject Classification : 47H10, 54H10, 47H09.

© http://www.ijpem.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Fixed Point Theorems For Compatible type α ,β and K in Fuzzy 2 - Metric Space

[1]A.Sharaliraj, [2]S.Sumitheradevi

[1,2]PG and Research Department of Mathematics, Urumu Dhanalakshmi College, Bharathidasan University Tiruchirappalli, Tamilnadu, India.

[1]sarguraj@gmail.com, [2]sumitheradevi999@gmail.com

Abstract - In this paper, we give some common fixed point results related to compatible type α,β and K and prove fixed point theorems for compatible mapping types in fuzzy 2-metric space.

Keywords - Fuzzy Set, Fuzzy Metric Space, Compatible α , Compatible β, Compatible K, Fuzzy 2-Metric Space.

I. INTRODUCTION

In 1965, the notion of fuzzy set was introduced by Zadeh [14] in fuzzy mathematics. A. George, P.Veeramani [4] give another path, the concept of fuzzy metric space introduced by Kramosil and Michalek [6].The concept of common fixed point theorem for commuting mapping was given by Jungck and more generalized commutativity is called compatibility.G. Jungck [7]introduced the compatible pair. Singh [9], Imdad et.al [8] proved a fixed point theorem for compatible mapping type in fuzzy metric space. Sharma and Deshpande[12] give the contraction type mapping in 2 metric space. The concept of 2-metric space has introduced by S.Gähler[1, 2].The study of Fuzzy-2 metric spaces and fuzzy 2 metric space have been active and interesting field of research work[3].

In this paper, we show the fixed point theorem in compatible type with self maps in fuzzy 2 metric space with illustrative examples.

II. PRELIMINARIES

Definition1.1[14]

A fuzzy set A in X is a function with domain X and values in [0,1].

Definition1.2[11]

A binary operation $* : [0,1] \times [0,1] \to [0,1]$ is a continuous t-norm if $([0,1], *)$ is an abelian topological monoid with unit 1 such that $a_1 * b_1 \le a_2 * b_2$ whenever $a_1 \le a_2$, $b_1 \le b_2$, $a_i, b_i \in [0,1]$ for all a_1, b_1, a_2, b_2.

Definition1.3 [13]

The triple $(X, M, *)$ is a fuzzy 2-metric space if X is an arbitrary set, * is a continuous t-norm, M is a fuzzy set in $X^3 \times [0,\infty)$ satisfying the following conditions for all $x_1, x_2, x_3 \in X$ and $t_1, t_2 > 0$

(i) $M(x_1, x_2, x_3, 0) = 0$

(ii) $M(x_1, x_2, x_3, t) = 1$, $\forall t > 0$ if and only if $x_1 = x_2 = x_3$

(iii) $M(x_1, x_2, x_3, t) = M(x_2, x_1, x_3, t) = M(x_1, x_3, x_2, t)$ (Symmetric about three variables)

(iv) $M(x_1, x_2, x_3, t_1 + t_2) \ge M(x_1, x_2, a, t_1) * M(a, x_2, x_3, t_2)$ (This corresponds to tetrahedron inequality in 2-metric space)

(v) $M(x_1, x_2, x_3, .) : [0,\infty) \to [0,1]$ is left continuous

(vi) $\lim_{t \to \infty} M(x_1, x_2, x_3, t) = 1$, $\forall x_1, x_2 \in X$.

Definition1.4 [9]

Two mappings A and B on a fuzzy 2-metric space X are said to be compatible type (α) if

$\lim_{n \to \infty} M(ABx_n, BBx_n, z, t) = 1$,

$\lim_{n \to \infty} M(BAx_n, AAx_n, z, t) = 1$

for all $t > 0$, whenever $\{x_n\}$ is a sequence such that $\lim_{n \to \infty} Ax_n = \lim_{n \to \infty} Bx_n = z$ for some $z \in X$.

Definition2.3 [10]

Two mappings A and B on a fuzzy 2-metric space X are said to be compatible type (β) if

$\lim_{n \to \infty} M(A^2x_n, B^2x_n, z, t) = 1$

for all $t > 0$, whenever $\{x_n\}$ is a sequence such that $\lim_{n \to \infty} Ax_n = \lim_{n \to \infty} Bx_n = z$ for some $z \in X$.

Definition2.6 [8]

Two mappings A and B on a fuzzy 2-metric space X are said to be compatible type (K) if

www.ijseas.com | ISSN: 2394-7179 (Online) 2017 IJSEAS

© 2017, IJSEAS All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Global Journal of Mathematical Sciences: Theory and Practical
ISSN 0974-3200 Volume 6, Number 1 (2014), pp. 19-24
© International Research Publication House
http://www.irphouse.com

Some Coupled Fixed Point Theorems in Partially Ordered Metric Space

A.Meruliraj and S.Jahir Hussain

P.G. and Research Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli-620 019, Tamil Nadu, India.
Anglestar@gmail.com
P.G. and Research Department of Mathematics
Jamal Mohamed College (Autonomous), Tiruchirappalli-620 020, Tamil Nadu, India

Abstract

Recently, J. Harjani, B. Lopez and K. Sadarangani [6] established fixed point theorems for mappings satisfying a rational type contractive condition in partially ordered metric space. In this paper, we obtain some corresponding coupled fixed point theorems in partially ordered metric spaces by employing a rational type contractive condition.

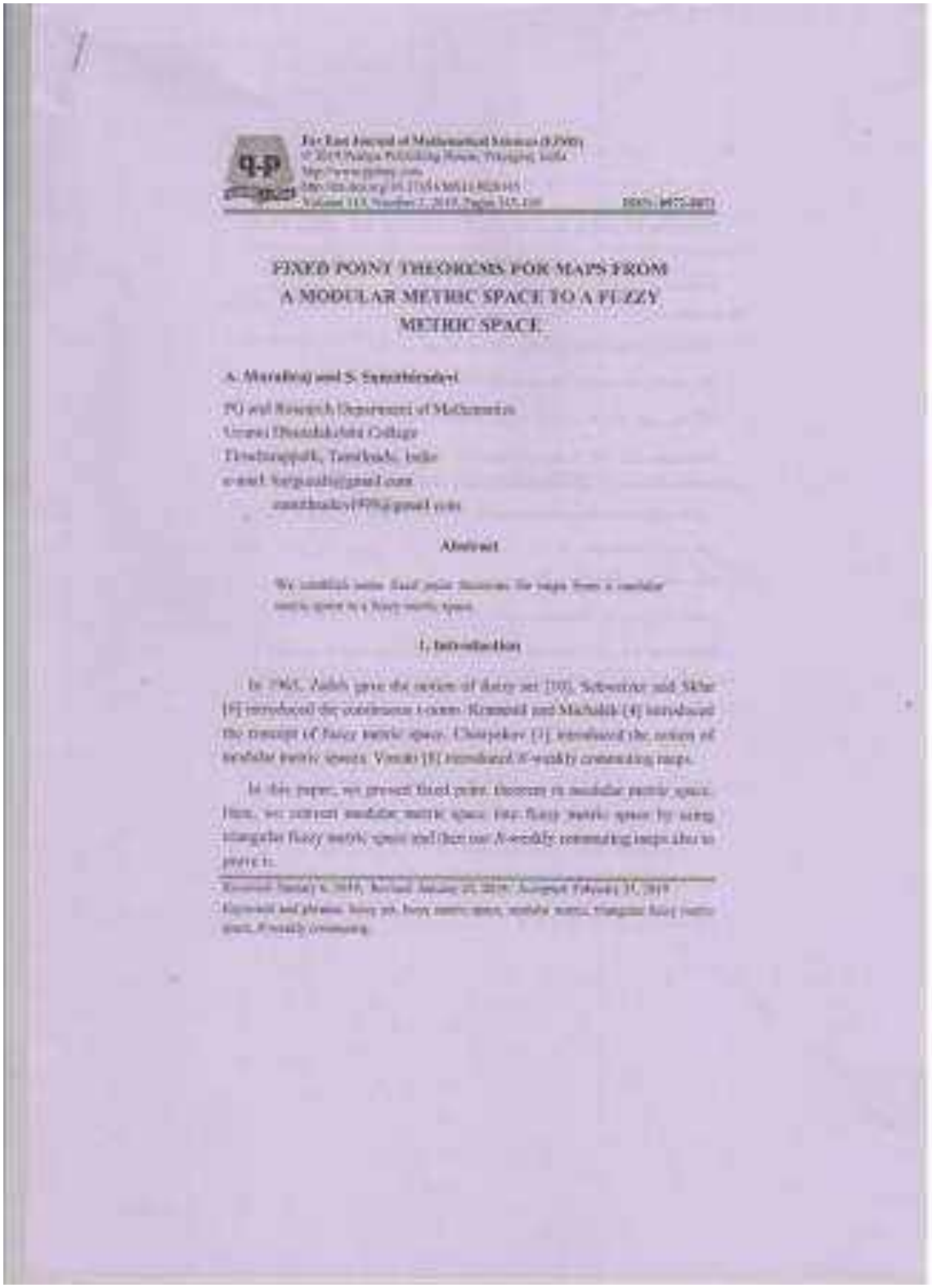
Keywords: Coupled fixed point theorems, partially ordered metric spaces, rational type contractive conditions.

2000 AMS Subject Classification: 47H10; 54H25; 47H09.

1. Introduction

The notion of coupled fixed points was introduced by Chang and Ma [3]. Since then, the concept has been of interest to many researchers in nonlinear fixed point theory. Bhaskar and Lakshmikantham [2] established coupled fixed point theorems in a metric space endowed with partial order by employing the following contractivity condition: For a mapping $T: X \times X \to X$, there exists $k \in [0, 1)$ such that $d(T(x,y), T(u,v)) \leq \frac{k}{2}[d(x,u)+d(y,v)]$ for $x, y, u, v \in X$, $x \geq u, y \leq v$. Harjani et al [5] established some fixed point theorems in partially ordered metric space setting by using a contractive condition of rational type. In this paper, we shall prove corresponding coupled fixed point theorems in partially ordered metric space by employing some notions of Bhaskar and Lakshmikantham [2] as well as a rational type contractive condition.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Far East Journal of Mathematical Sciences (FJMS)
© 2019 Pushpa Publishing House, Prayagraj, India
http://www.pphmj.com
http://dx.doi.org/10.17654/MS113020345
Volume 113, Number 2, 2019, Pages 345-359
ISSN: 0972-0871

FIXED POINT THEOREMS FOR MAPS FROM A MODULAR METRIC SPACE TO A FUZZY METRIC SPACE

A. Muraliraj and S. Sumathiraji

PG and Research Department of Mathematics
Urumu Dhanalakshmi College
Tiruchirappalli, Tamilnadu, India
e-mail: bergamuraj@gmail.com
sumthanky1990@gmail.com

Abstract

We establish some fixed point theorems for maps from a modular metric space to a fuzzy metric space.

1. Introduction

In 1965, Zadeh gave the notion of fuzzy set [10]. Schweizer and Sklar [5] introduced the continuous t-norm. Kramosil and Michalek [4] introduced the concept of fuzzy metric space. Chaterjee [1] introduced the notion of modular metric spaces. Vasuki [8] introduced R-weakly commuting maps.

In this paper, we present fixed point theorem in modular metric space. Here, we convert modular metric space into fuzzy metric space by using triangular fuzzy metric space and then use R-weakly commuting maps also to prove it.

Received: January 6, 2019; Revised: January 25, 2019; Accepted: February 27, 2019
Keywords and phrases: fuzzy set, fuzzy metric space, modular metric, triangular fuzzy metric space, R-weakly commuting.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Pure Mathematical Sciences, Vol. 3, 2014, no. 1, 35 - 43
HIKARI Ltd, www.m-hikari.com
http://dx.doi.org/10.12988/pure.2014.31236

Some Fixed Point Theorems in Dislocated Metric Spaces

T. Senthil Kumar

P.G. Department of Mathematics, A.A.Government Arts College
Musiri-621211, Tamil Nadu, India

A. Muraliraj

P.G. and Research Department of Mathematics, Cauvery Dharmapuram College, Karur,
Tiruchirappalli-620 019, Tamil Nadu, India

B. Jakir Hussain

P.G. and Research Department of Mathematics, Jamal Mohamed College(Autonomous),
Tiruchirappalli-620 020, Tamil Nadu, India

Copyright © 2014 T. Senthil Kumar, A. Muraliraj and B. Jakir Hussain. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

In this paper, we prove a contractive type condition with rational expression and generalize common fixed point theorem for Expansive Type Mapping in Dislocated metric space. Our results extends and generalizes many well known results.

Keywords: Dislocated metric space, fixed point, d_d-Cauchy sequence.

1 Introduction

P. Hitzler et al., introduced the notion of dislocated metric spaces in which self distance of a point need not be equal to zero. They also generalized the famous Banach contraction principle in this space, and satisfying certain contractive conditions has been at the center of vigorous research activity. Dislocated metric space plays very important role in topology, logical programming and in electronics engineering. Aage et. al., established some

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Advent Technology (IJRAT) Special Issue, January 2019
E-ISSN: 2321-9637
Available online at www.ijrat.org
International Conference on Applied Mathematics and Bio-Inspired Computations
10th & 11th January 2019

Fixed point theorems for fuzzy map using generalized contraction implicit function in metric space

A. Manokaran, S. Sumathipandian
PG and Research Department of Mathematics, Thiruvalluvar College, Papanasam
Manonmaniam Sundaranar University, Tirunelveli-627012, Tamilnadu, India
Email: manokaran@gmail.com, sumathisubi1989@gmail.com

Abstract—In this paper, we proved some fixed point theorems for fuzzy map using contraction and implicit function metric space.

Keywords—
Fixed point, Metric space, Fuzzy mapping, grade of membership, implicit condition.

I. INTRODUCTION

Fuzzy set was introduced by Zadeh[5] in 1965. Heilpern[3] defined the concept of fuzzy mapping and proved fixed point theorem. For contraction mapping and Rhoades [1] defined the contractive mapping in fuzzy metric and studied its fixed point.

In this paper, we proved some fixed point theorems for fuzzy mapping generalized contractive mapping and implicit function in metric space.

II. PRELIMINARIES

Definition 2.1. [3]

Let (X, d) be a metric space. A fuzzy set in X is a function with domain X and values in $[0,1]$. If A is a fuzzy set and $x \in X$, then the function value $A(x)$ is called the grade of membership of x in A. The collection of all fuzzy sets in X is denoted by I^X.

Let $A \in I^X$ and $\alpha \in [0,1]$. The α-level set of A denoted by A_α is defined by

$A_\alpha = \{x : A(x) \geq \alpha\}$ if $\alpha \in [0,1]$

$A_\alpha = \{x : A(x)\}^{-}$ if $\alpha = 0$ where B^{-} is closure of set (non fuzzy) B.

Definition 2.2 [3]

A fuzzy set A in X is an approximate quantity if its α-level set is a non-empty compact convex subset (non fuzzy) of X for each $\alpha \in [0,1]$ and $\sup_{x \in X} A(x) = 1$.

The set of all approximate quantities denoted by $W(X)$ is a subcollection of I^X.

Definition 2.3. [3]

Let $A, B \in W(X)$ i.e. $\in [0,1]$ and $C(X)$ be the set of all non-empty compact subset of X.

Then

$P_\alpha(A, B) = \inf_{x \in A_\alpha, y \in B_\alpha} d(x, y)$

$I_\alpha(A, B) = \sup_{x \in A_\alpha, y \in B_\alpha} d(x, y)$

$H(A_\alpha, B_\alpha)$

where H is the Hausdorff metric between two sets in the collection $C(X)$.

we define the following function

$H(A, B) = \sup_\alpha P_\alpha(A, B)$, $I(A, B) = \sup_\alpha I_\alpha(A, B)$,

$D(A, B) = \sup_\alpha D_\alpha(A, B)$.

It is noted that P_α is non-decreasing function of α.

Definition 2.4. [3]

Let X be an arbitrary set and Y be a metric space. A is said to be fuzzy mapping if F is a mapping from the set X into $W(Y)$ i.e. $F(x) \in W(Y)$ for each $x \in X$.

Proposition 2.5. [4]

If $A, B \in C(X)$ and $a \in A$, then there exists $b \in B$ such that $d(a, b) \leq H(A, B)$.

Lemma 2.6. [3]

If $\{x_n\} \subset A$ for each $A \in W^\alpha(X)$ and $x_0 \in X$ then $x_0 \in \lim_{n \to \infty} x_n$ if $P_\alpha(x_0, B)$ for each $B \in W^\alpha(X)$.

Lemma 2.7. [3]

$P_\alpha(x, A) \leq d(x, y) + P_\alpha(y, A)$ for all $x, y \in X$ and $A \in W^\alpha(x)$.

Lemma 2.8. [3]

Let $x \in X$, $A \in W^\alpha(X)$ and $\{x\}$ be a fuzzy set with membership function equal to a characteristic function of the set $\{x\}$. Then $\{x\} \subset A$ iff $P_\alpha(x, A) = 0$ for each $\alpha \in [0,1]$.

Lemma 2.9. [3]

Let (X, d) be a complete metric space, $F : X \to W^\alpha(X)$ be a fuzzy map and $x_0 \in X$. Then there exists $x_1 \in X$ such that $\{x_1\} \subset F(x_0)$.

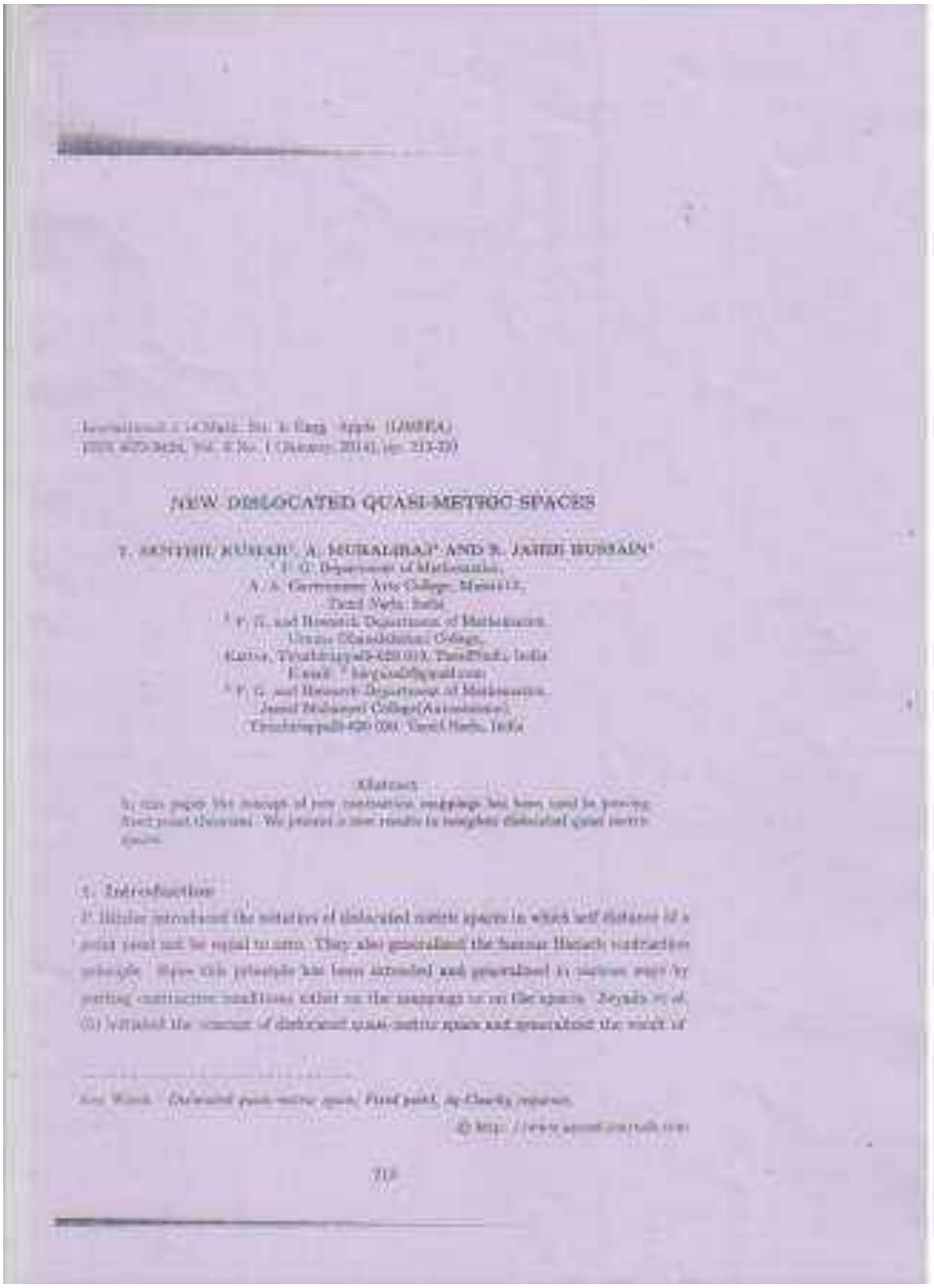
Let φ be the family of real valued lower semi-continuous functions

$F : [0,\infty)^5 \to R$ satisfy the following condition

(a) F is non-decreasing in 1^{st} coordinate and F is non-increasing in 3^{rd}, 4^{th}, 5^{th} coordinate variable.

(b) There exists $h \in [0,1)$ such that for every $u, v \geq 0$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 8 No. I (January, 2014), pp. 213-220

NEW DISLOCATED QUASI-METRIC SPACES

T. ANTHIL KUMAR[1], A. MUKARAJA[2] AND B. JAHIR HUSSAIN[3]
[1] P. G. Department of Mathematics,
A. A. Government Arts College, Musiri,
Tamil Nadu, India
[2] P. G. and Research Department of Mathematics,
Urumu Dhanalakshmi College,
Kattur, Tiruchirappalli-620 019, Tamil Nadu, India
E-mail: [2] kavyasabhi@gmail.com
[3] P. G. and Research Department of Mathematics,
Jamal Mohamed College(Autonomous),
Tiruchirappalli-620 020, Tamil Nadu, India

Abstract

In this paper the concept of new contractive mappings has been used to prove a fixed point theorem. We present a few results in complete dislocated quasi metric spaces.

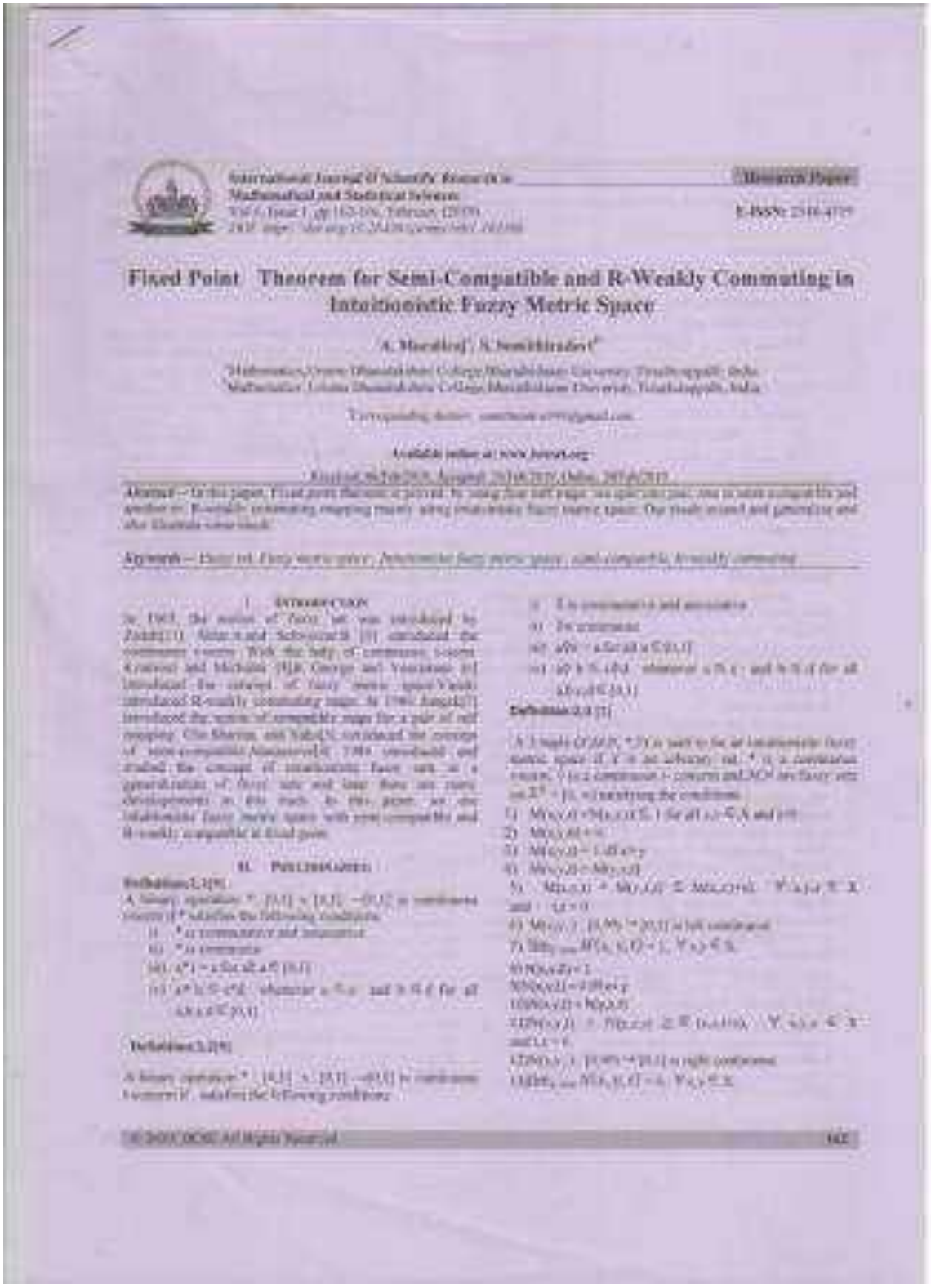
1. Introduction

P. Hitzler introduced the notation of dislocated metric spaces in which self distance of a point need not be equal to zero. They also generalized the Banach contraction principle. Here this principle has been extended and generalized in various ways by using contractive conditions either on the mappings or on the spaces. Zeyada et al. [3] established the concept of dislocated quasi-metric space and generalized the result of

Key Words: Dislocated quasi-metric space, Fixed point, (ψ,Ψ)-weakly contractive.

© http://www.sadgurujournals.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Scientific Research in Mathematical and Statistical Sciences
Vol. 6, Issue 1, pp.162-166, February (2019)
E-ISSN: 2348-4519

Research Paper

Fixed Point Theorem for Semi-Compatible and R-Weakly Commuting in Intuitionistic Fuzzy Metric Space

A. Muralikrishnan[1], S. Senthilkirankvel[2]*

[1]Mathematics, Vivekanandha College, Tiruchengode, India
[2]Mathematics, Vivekanandha College, Tiruchengode, India

*Corresponding Author: senthilkiran.s@gmail.com

Available online at: www.isroset.org

Received: 06/Feb/2019, Accepted: 20/Feb/2019, Online: 28/Feb/2019

Abstract—In this paper, Fixed point theorem is proved by using four self maps via semi-compatible and R-weakly commuting mapping mainly using intuitionistic fuzzy metric space. Our result extend and generalize and also illustrate some result.

Keywords—Fuzzy set, Fuzzy metric space, Intuitionistic fuzzy metric space, semi-compatible, R-weakly commuting

I. INTRODUCTION

In 1965, the notion of fuzzy set was introduced by Zadeh[13]. After it and Schweizer& [9] introduced the continuous t-norm. With the help of continuous t-norm Kramosil and Michalek [8],B. George and Veeramani et.al introduced the concept of fuzzy metric space.Vasuki introduced R-weakly commuting maps. In 1986 Jungck[5] introduced the notion of compatible maps for a pair of self mapping. Cho Sharma and Yuhal[3], introduced the concept of semi-compatible.Alaminovic[1] 1986 introduced and studied the concept of intuitionistic fuzzy sets as a generalization of fuzzy sets and later there are many developments in this track. In this paper, we use intuitionistic fuzzy metric space with semi compatible and R-weakly compatible to find point.

II. PRELIMINARIES

Definition 2.1[9]:
A binary operation $*:[0,1]\times[0,1]\to[0,1]$ is continuous t-norm if $*$ satisfies the following conditions:

i) $*$ is commutative and associative
ii) $*$ is continuous
iii) $a*1=a$ for all $a\in[0,1]$
iv) $a*b\le c*d$ whenever $a\le c$ and $b\le d$ for all $a,b,c,d\in[0,1]$

Definition 2.2[9]:

A binary operation $*:[0,1]\times[0,1]\to[0,1]$ is continuous t-conorm if $\diamond$ satisfies the following conditions:

i) $\diamond$ is commutative and associative
ii) $\diamond$ is continuous
iii) $a\diamond 0=a$ for all $a\in[0,1]$
iv) $a\diamond b\le c\diamond d$ whenever $a\le c$ and $b\le d$ for all $a,b,c,d\in[0,1]$

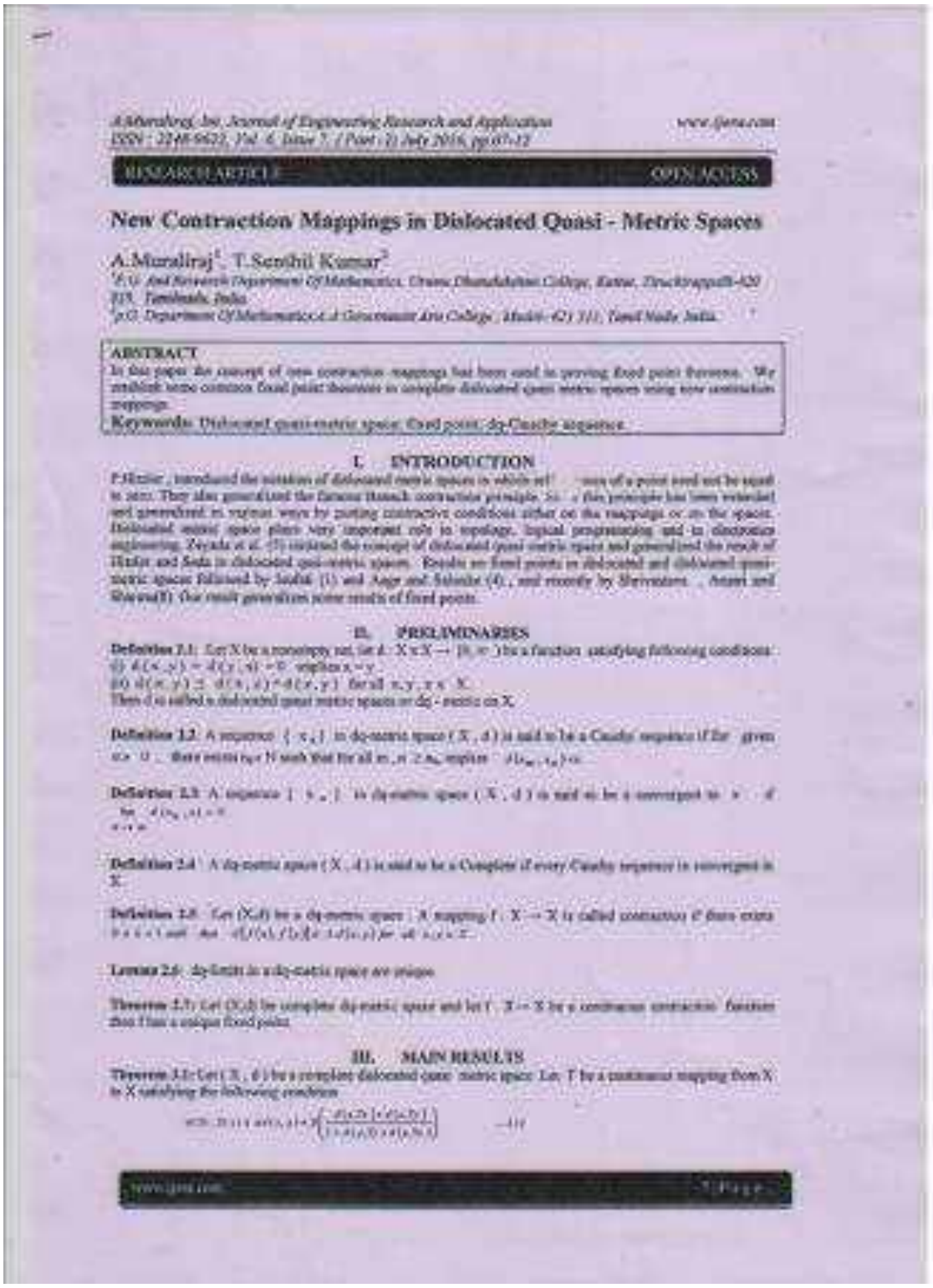
Definition 2.3 [3]:

A 3-tuple $(X,M,N,*,\diamond)$ is said to be an intuitionistic fuzzy metric space if X is an arbitrary set, $*$ is a continuous t-norm, $\diamond$ is a continuous t- conorm and M,N are fuzzy sets on $X^2\times[0,\infty)$ satisfying the conditions:

1) $M(x,y,t)+N(x,y,t)\le 1$ for all $x,y\in X$ and $t>0$
2) $M(x,y,t)>0$
3) $M(x,y,t)=1$ if $x=y$
4) $M(x,y,t)=M(y,x,t)$
5) $M(x,y,t)*M(y,z,s)\le M(x,z,t+s)$ $\forall\ x,y,z\in X$ and $t,s>0$
6) $M(x,y,.):[0,\infty)\to[0,1]$ is left continuous
7) $\lim_{t\to\infty}M(x,y,t)=1$, $\forall\ x,y\in X$
8) $N(x,y,t)<1$
9) $N(x,y,t)=1$ if $x=y$
10) $N(x,y,t)=N(y,x,t)$
11) $N(x,y,t)\diamond N(y,z,s)\ge N(x,z,t+s)$ $\forall\ x,y,z\in X$ and $t,s>0$.
12) $N(x,y,.):[0,\infty)\to[0,1]$ is right continuous
13) $\lim_{t\to\infty}N(x,y,t)=0$, $\forall\ x,y\in X$

© 2019, IJSRMSS All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Engineering Research and Application www.ijera.com
ISSN : 2248-9622, Vol. 6, Issue 7, (Part - 2) July 2016, pp.07-12

RESEARCH ARTICLE OPEN ACCESS

New Contraction Mappings in Dislocated Quasi - Metric Spaces

A.Muraliraj[1], T.Senthil Kumar[2]
[1]P.G. And Research Department Of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli-620 019, Tamilnadu, India.
[2]P.G. Department Of Mathematics, A.A.Government Arts College, Musiri-621 211, Tamil Nadu, India.

ABSTRACT
In this paper the concept of new contraction mappings has been used in proving fixed point theorems. We establish some common fixed point theorems in complete dislocated quasi metric spaces using new contraction mappings.
Keywords: Dislocated quasi-metric space, fixed point, dq-Cauchy sequence.

I. INTRODUCTION

P.Hitzler , introduced the notation of dislocated metric spaces in which self ness of a point need not be equal to zero. They also generalized the famous Banach contraction principle. This principle has been extended and generalized in various ways by putting contractive conditions either on the mappings or on the spaces. Dislocated metric space plays very important role in topology, logical programming and in electronics engineering. Zeyada et al. [5] initiated the concept of dislocated quasi metric space and generalized the result of Hitzler and Seda in dislocated quasi-metric spaces. Results on fixed points in dislocated and dislocated quasi-metric spaces followed by Isufati [1] and Aage and Salunke [4] , and recently by Shrivastava , Ansari and Sharma[8] Our result generalizes some results of fixed points.

II. PRELIMINARIES

Definition 2.1: Let X be a nonempty set, let $d : X \times X \to [0, \infty)$ be a function satisfying following conditions:
i) $d(x, y) = d(y, x) = 0$ implies $x = y$.
ii) $d(x, y) \le d(x, z) + d(z, y)$ for all $x, y, z \in X$.
Then d is called a dislocated quasi metric spaces or dq - metric on X.

Definition 2.2: A sequence $\{x_n\}$ in dq-metric space (X, d) is said to be a Cauchy sequence if for given $\varepsilon > 0$, there exists $n_0 \in N$ such that for all $m, n \ge n_0$ implies $d(x_m, x_n) < \varepsilon$.

Definition 2.3: A sequence $\{x_n\}$ in dq-metric space (X, d) is said to be a convergent to x if $\lim_{n \to \infty} d(x_n, x) = 0$.

Definition 2.4: A dq-metric space (X, d) is said to be a Complete if every Cauchy sequence is convergent in X.

Definition 2.5: Let (X, d) be a dq-metric space. A mapping $f : X \to X$ is called contractive if there exists $0 < k < 1$ such that $d(fx, fy) \le k\, d(x, y)$ for all $x, y \in X$.

Lemma 2.6: dq-limit in a dq-metric space are unique.

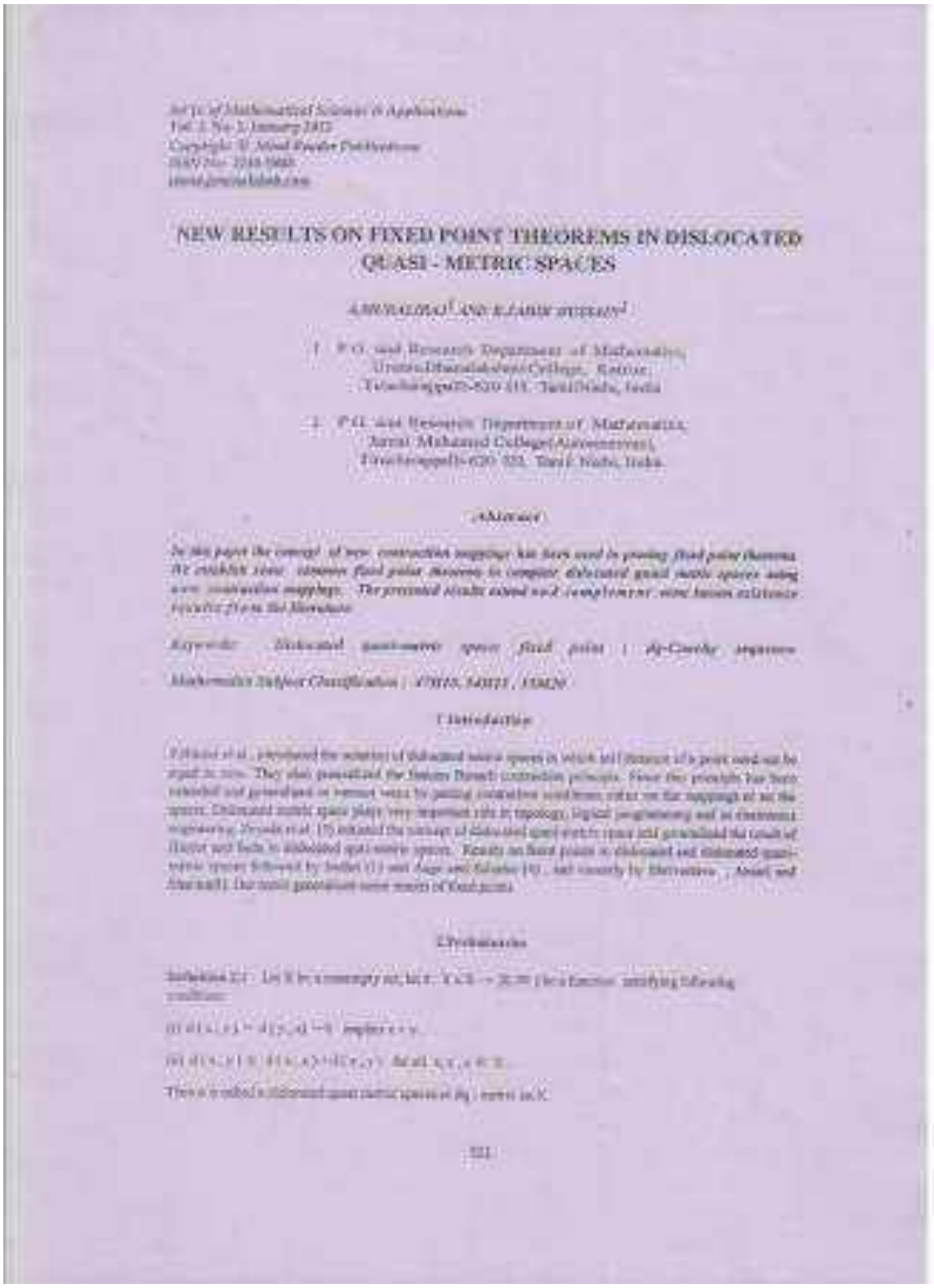
Theorem 2.7: Let (X, d) be complete dq-metric space and let $f : X \to X$ be a continuous contractive function then f has a unique fixed point.

III. MAIN RESULTS

Theorem 3.1: Let (X, d) be a complete dislocated quasi- metric space. Let T be a continuous mapping from X to X satisfying the following condition

$$\min\{d(x, Tx), d(y, Ty)\} \le \alpha \left[\frac{d(x, Tx)[1 + d(y, Ty)]}{1 + d(x, y)} + d(y, Ty) \right] \quad \text{---(1)}$$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Int'l. J. of Mathematical Sciences & Applications
Vol. 2, No. 2, January 2013
Copyright © Mind Reader Publications
ISSN No: 2230-9888
www.journalshub.com

NEW RESULTS ON FIXED POINT THEOREMS IN DISLOCATED QUASI - METRIC SPACES

A.ANUSUYA[1] AND E.JANAKI SUGANTHI[2]

1. P.G. and Research Department of Mathematics, Urumu Dhanalakshmi College, Kattur, Tiruchirappalli-620 019, Tamil Nadu, India.

2. P.G. and Research Department of Mathematics, Jamal Mohamed College(Autonomous), Tiruchirappalli-620 020, Tamil Nadu, India.

Abstract

In this paper the concept of new contraction mappings has been used to prove fixed point theorems. We establish some common fixed point theorems in complete dislocated quasi metric spaces using new contraction mappings. The presented results extend and complement some known existence results from the literature.

Keywords: Dislocated quasi-metric space, fixed point, Ap-Cauchy sequence.

Mathematics Subject Classification : 47H10, 54H25, 55M20

1 Introduction

P.Hitzler et al., introduced the notion of dislocated metric spaces in which self distance of a point need not be equal to zero. They also generalized the Banach contraction principle. Since this principle has been extended and generalized in various ways by putting contractive conditions either on the mappings or on the spaces. Dislocated metric space plays very important role in topology, logical programming and in electronics engineering. Zeyada et al. [5] initiated the concept of dislocated quasi metric space and generalized the result of Hitzler and Seda to dislocated quasi metric spaces. Results on fixed points in dislocated and dislocated quasi-metric spaces followed by Isufati [3] and Aage and Salunke [4], and recently by Shrivastava , Ansari and Sharma[8]. For more generalized some results of fixed points.

2 Preliminaries

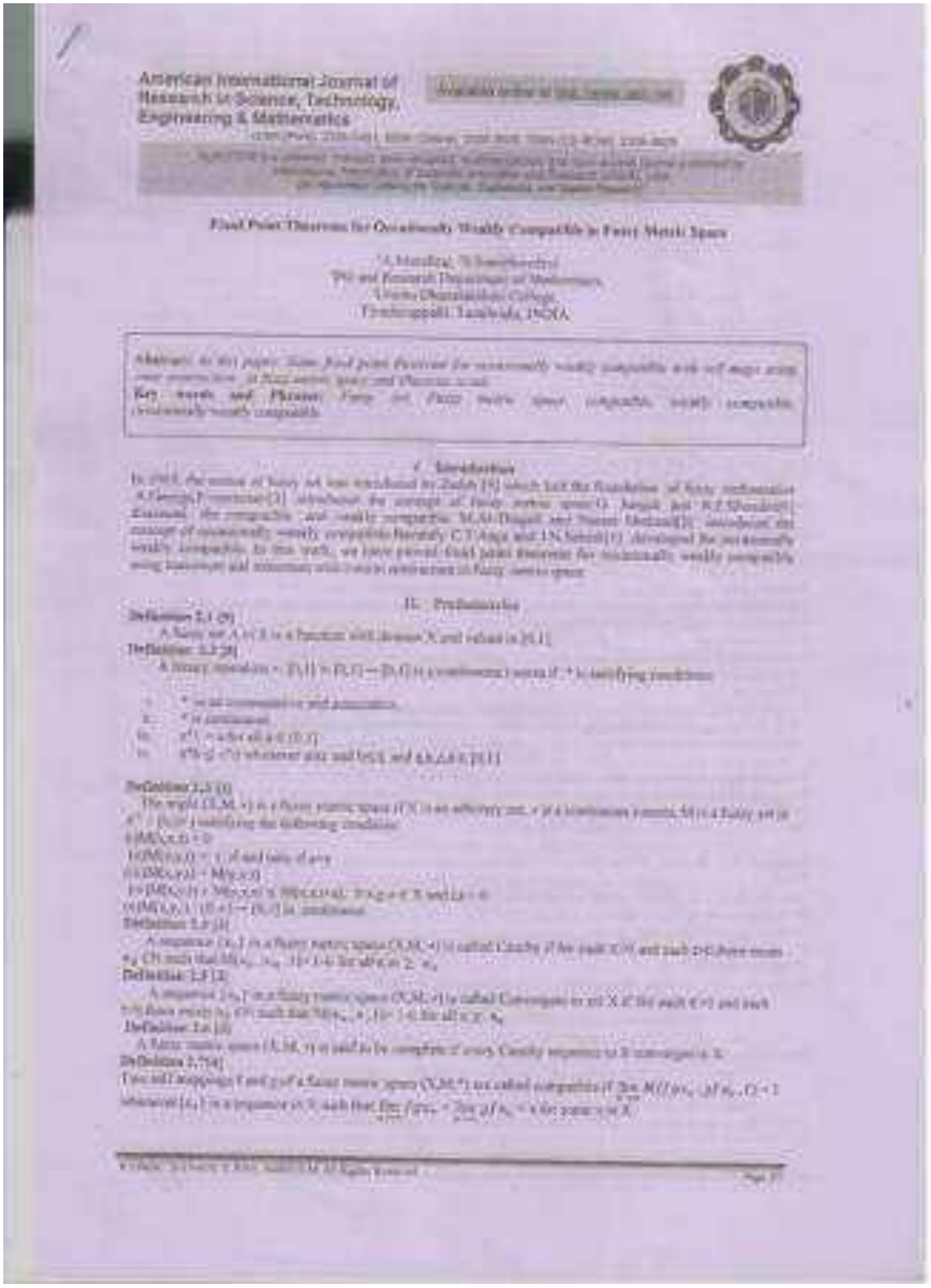
Definition 2.1: Let X be a nonempty set, let $d: X \times X \to [0,\infty)$ be a function satisfying following conditions:

(i) $d(x,y) = d(y,x) = 0$ implies $x = y$.

(ii) $d(x,y) \leq d(x,z) + d(z,y)$ for all $x, y, z \in X$.

Then d called a dislocated quasi metric (dq-metric) on X.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



American International Journal of Research in Science, Technology, Engineering & Mathematics

Fixed Point Theorems for Occasionally Weakly Compatible in Fuzzy Metric Space

A. Muralisiva, N. Sreelakshmi
PG and Research Department of Mathematics,
Urumu Dhanalakshmi College,
Tiruchirappalli, Tamilnadu, INDIA

Abstract: In this paper, some fixed point theorems for occasionally weakly compatible self maps using common limit in fuzzy metric space are obtained.

Key words and Phrases: Fuzzy set, Fuzzy metric space, compatible, weakly compatible, occasionally weakly compatible.

I. Introduction

In 1965, the notion of fuzzy set was introduced by Zadeh [9] which laid the foundation of fuzzy mathematics. Kramosil and Michalek[3] introduced the concept of fuzzy metric space. Jungck and B.E.Rhoades[2] introduced the compatible and weakly compatible. M.Abbas and Sharma Hardeep[1], introduced the concept of occasionally weakly compatible. Recently C.T.Aage and J.N.Salunke[4] developed the occasionally weakly compatible in this work, we have proved fixed point theorem for occasionally weakly compatible using minimum and minimum with cubic interaction in fuzzy metric space.

II. Preliminaries

Definition 2.1 [9]

A fuzzy set A in X is a function with domain X and values in $[0,1]$.

Definition 2.2 [8]

A binary operation $*: [0,1] \times [0,1] \to [0,1]$ is a continuous t-norm if $*$ is satisfying conditions:

i) $*$ is an associative and commutative,

ii) $*$ is continuous,

iii) $a*1 = a$ for all $a \in [0,1]$

iv) $a*b \le c*d$ whenever $a \le c$ and $b \le d$, and $a, b, c, d \in [0,1]$.

Definition 2.3 [3]

The triple $(X, M, *)$ is a fuzzy metric space if X is an arbitrary set, $*$ is a continuous t-norm, M is a fuzzy set in $X^2 \times [0,\infty)$ satisfying the following conditions:

i) $M(x, y, 0) = 0$

ii) $M(x, y, t) = 1$, if and only if $x = y$

iii) $M(x, y, t) = M(y, x, t)$

iv) $M(x, y, t) * M(y, z, s) \le M(x, z, t+s)$, for $x, y, z \in X$ and $s, t > 0$

v) $M(x, y, .) : [0, \infty) \to [0, 1]$ is continuous.

Definition 2.4 [4]

A sequence $\{x_n\}$ in a fuzzy metric space $(X, M, *)$ is called Cauchy if for each $\varepsilon > 0$ and each $t > 0$ there exists $n_0 \in \mathbb{N}$ such that $M(x_n, x_m, t) > 1 - \varepsilon$ for all $n, m \ge n_0$.

Definition 2.5 [2]

A sequence $\{x_n\}$ in a fuzzy metric space $(X, M, *)$ is called Convergent to $x \in X$ if for each $\varepsilon > 0$ and each $t > 0$ there exists $n_0 \in \mathbb{N}$ such that $M(x_n, x, t) > 1 - \varepsilon$ for all $n \ge n_0$.

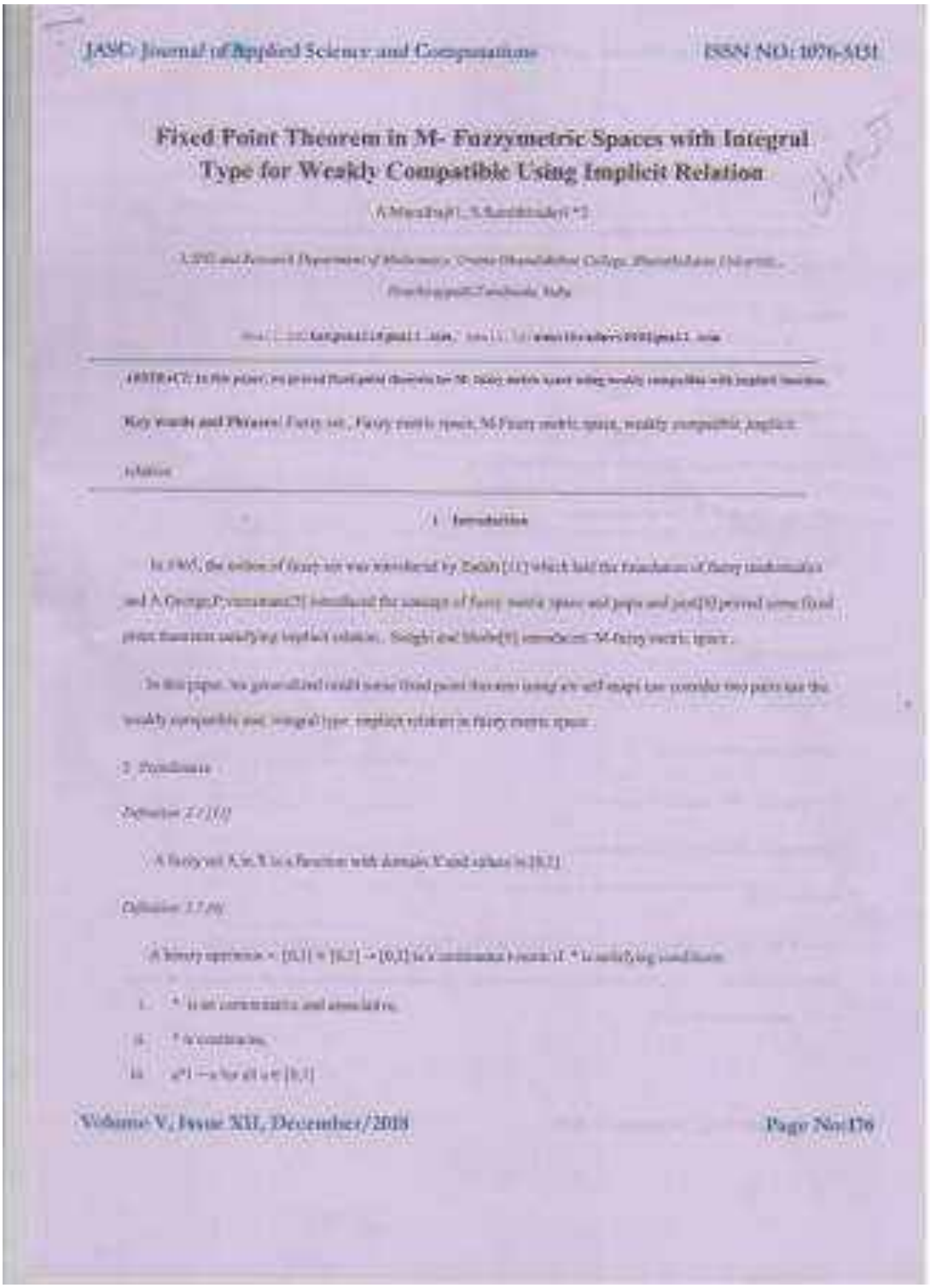
Definition 2.6 [4]

A fuzzy metric space $(X, M, *)$ is said to be complete if every Cauchy sequence in X converges in X.

Definition 2.7 [4]

Two self mappings f and g of a fuzzy metric space $(X, M, *)$ are called compatible if $\lim_{n\to\infty} M(fgx_n, gfx_n, t) = 1$ whenever $\{x_n\}$ is a sequence in X such that $\lim_{n\to\infty} fx_n = \lim_{n\to\infty} gx_n = x$ for some x in X.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



JASC: Journal of Applied Science and Computations ISSN NO: 1076-5131

Fixed Point Theorem in M- Fuzzymetric Spaces with Integral Type for Weakly Compatible Using Implicit Relation

A Mary Jhansi[1], S Ramkrishnan[2] *

[1,2]P.G and Research Department of Mathematics, Urumu Dhanalakshmi College, Bharathidasan University, Tiruchirappalli-Tamilnadu, India

mail: [illegible]@gmail.com, [illegible]

ABSTRACT: In this paper, we proved fixed point theorem for M- fuzzy metric space using weakly compatible with implicit function.

Key Words and Phrases: Fuzzy set , Fuzzy metric space, M-Fuzzy metric space, weakly compatible, implicit relation

1 Introduction

In 1965, the notion of fuzzy set was introduced by Zadeh [11] which laid the foundation of fuzzy mathematics and A.George,P.veeramani[7] introduced the concept of fuzzy metric space and josh[8] proved some fixed point theorem satisfying implicit relation. Singh and bhatt[9] introduces M-fuzzy metric space.

In this paper, we generalized result some fixed point theorem using six self maps we consider two pairs are the weakly compatible and integral type implicit relation in fuzzy metric space.

2 Preliminaries

Definition 2.1 [11]

A fuzzy set A in X is a function with domain X and values in $[0,1]$

Definition 2.2 [6]

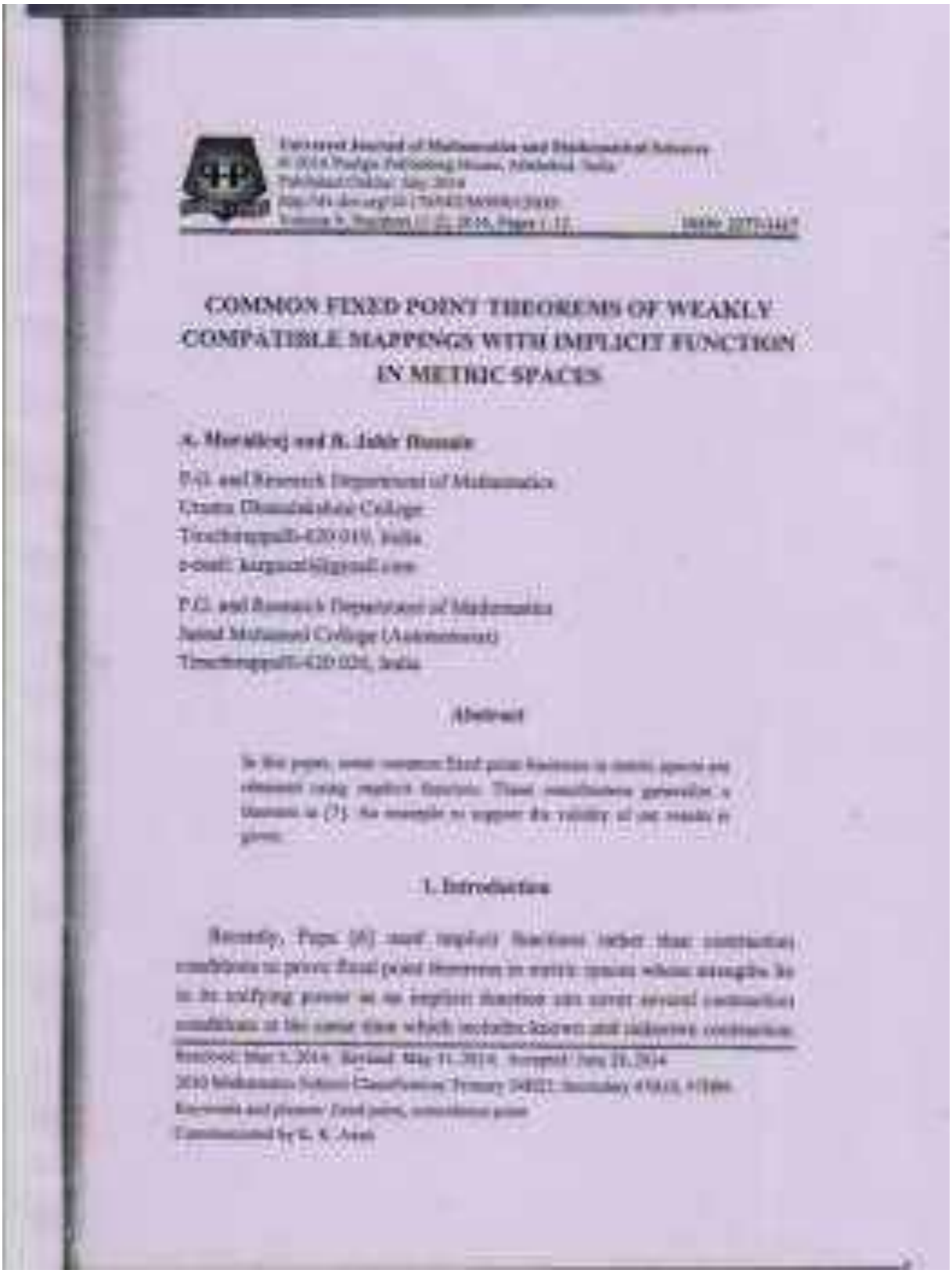
A binary operation $*: [0,1] \times [0,1] \to [0,1]$ is a continuous t-norm if $*$ is satisfying conditions

i. $*$ is an commutative and associative,

ii. $*$ is continuous,

iii. $a*1 = a$ for all $a \in [0,1]$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematics and Mathematical Sciences
© 2014 Pushpa Publishing House, Allahabad, India
Published Online: July 2014
http://dx.doi.org/10.17654/MS008123003
Volume 8, Number 1 (2015), Pages 1-12 ISSN: 0973-3417

COMMON FIXED POINT THEOREMS OF WEAKLY COMPATIBLE MAPPINGS WITH IMPLICIT FUNCTION IN METRIC SPACES

A. Muraleej and R. Jahir Hussain

P.G. and Research Department of Mathematics
Urumu Dhanalakshmi College
Tiruchirappalli-620 019, India
e-mail: kargamal@gmail.com

P.G. and Research Department of Mathematics
Jamal Mohamed College (Autonomous)
Tiruchirappalli-620 020, India

Abstract

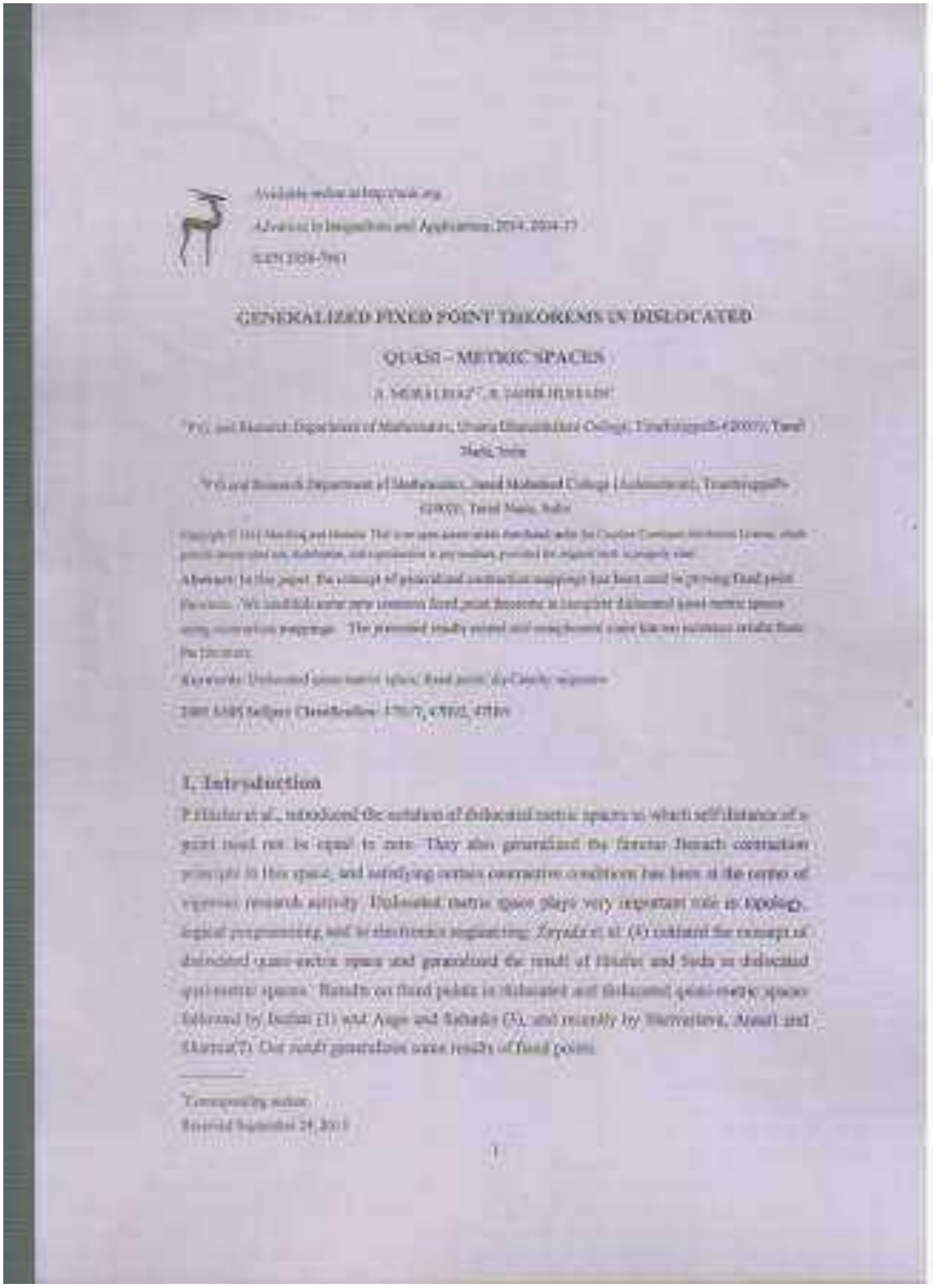
In this paper, some common fixed point theorems in metric spaces are obtained using implicit function. These results generalize a theorem in [3]. An example to support the validity of our results is given.

1. Introduction

Recently, Popa [6] used implicit functions rather than contractive conditions to prove fixed point theorems in metric spaces whose strengths lie in its satisfying power as an implicit function can cover several contractive conditions at the same time which include known and unknown contractive

Received: May 5, 2014; Revised: May 31, 2014; Accepted: June 23, 2014
2010 Mathematics Subject Classification: Primary 54H25; Secondary 47H10, 47H09.
Keywords and phrases: fixed points, coincidence point.
Communicated by G. S. Saluja

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Available online at http://scik.org
Advances in Inequalities and Applications, 2014, 2014:17
ISSN 2050-7461

GENERALIZED FIXED POINT THEOREMS IN DISLOCATED QUASI – METRIC SPACES

A. MUKHEIMER*, R. SAHREDHAYAM

P.G. and Research Department of Mathematics, Urumu Dhanalakshmi College, Tiruchirappalli-620019, Tamil Nadu, India

P.G. and Research Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli-620020, Tamil Nadu, India

Copyright © 2014 Mukheimer and Hussain. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract In this paper, the concept of generalized contraction mappings has been used in proving fixed point theorems. We establish some new common fixed point theorems in complete dislocated quasi metric spaces using more relaxed mappings. The presented results extend and complement many known results from the literature.

Keywords: Dislocated quasi-metric space; fixed point; dq-Cauchy sequence

2000 MSC Subject Classification: 47H10, 47H05, 47H09

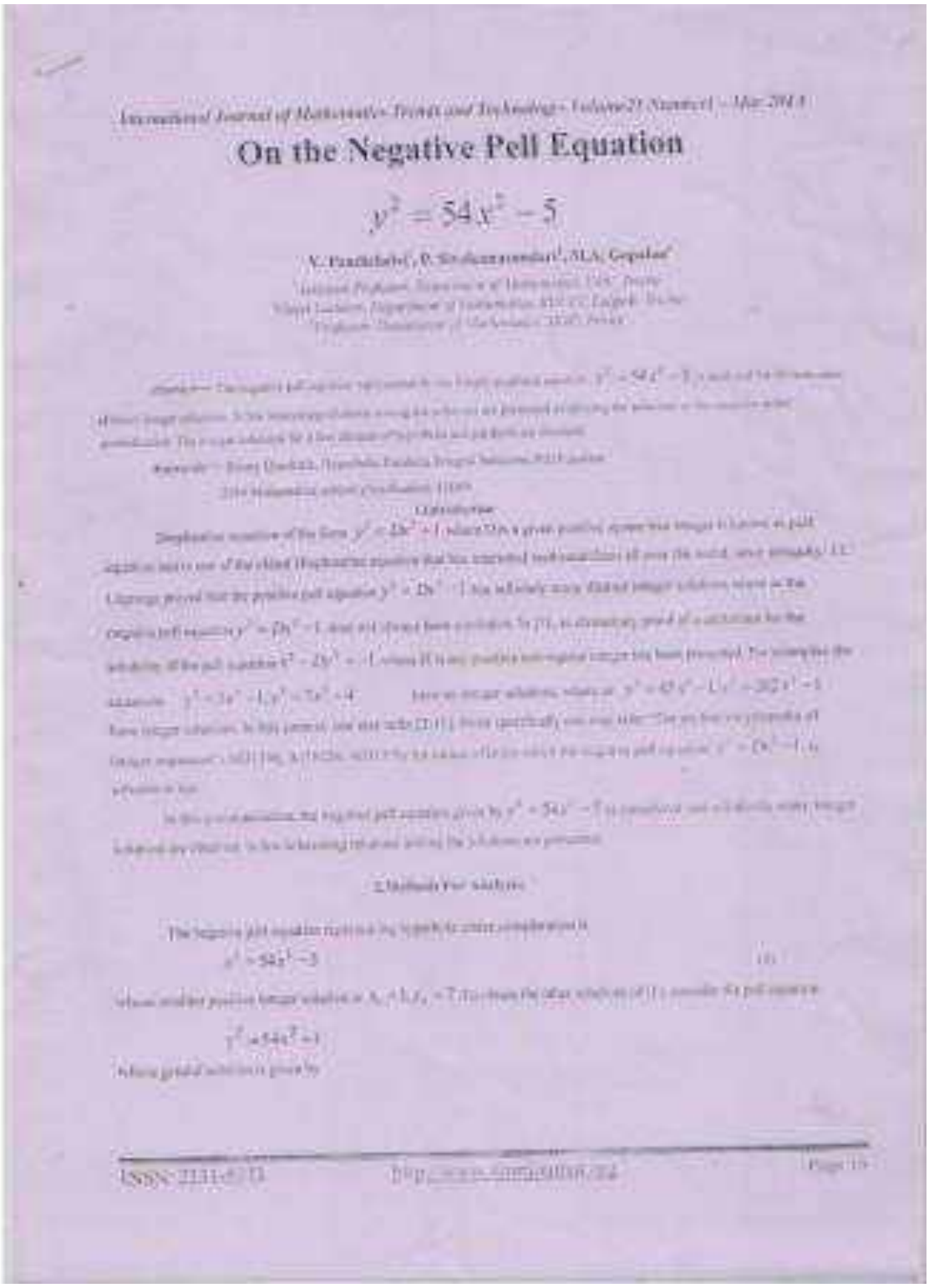
1. Introduction

P. Hitzler et al., introduced the notion of dislocated metric spaces in which self distance of a point need not be equal to zero. They also generalized the famous Banach contraction principle in this space, and satisfying certain contractive conditions has been at the centre of vigorous research activity. Dislocated metric space plays very important role in topology, logical programming and in the fixpoint theory. Zeyada et al. [4] initiated the concept of dislocated quasi-metric space and generalized the result of Hitzler and Seda in dislocated quasi-metric spaces. Results on fixed points in dislocated and dislocated quasi-metric spaces followed by Isufati [1] and Aage and Salunke [3], and recently by Shrivastava, Ansari and Sharma[7]. Our result generalizes some results of fixed points.

*Corresponding author

Received September 24, 2013

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Mathematical Trends and Technology - Volume21 Number1 – May 2015

On the Negative Pell Equation

$$y^2 = 54x^2 - 5$$

V. Pandichelvi[1], P. Sivakamasundari[2], M.A. Gopalan[3]

Abstract— The negative pell equation represented by the binary quadratic form $y^2 = 54x^2 - 5$ is studied for its non-zero integer solutions. A few interesting relations among its solutions are presented. A few integer solutions of other choices of N are also given.

Keywords— Binary Quadratic, Hyperbola, Positive Integer Solutions, Pell equation

2010 Mathematics subject classification: 11D09

I.Introduction

Diophantine equation of the form $y^2 = Dx^2 + 1$, where D is a given positive square free integer is known as pell equation, one of the oldest Diophantine equation that has captured mathematicians all over the world, since antiquity. It is known proved that the positive pell equation $y^2 = Dx^2 - 1$ has infinitely many distinct integer solutions where as the negative pell equation $y^2 = Dx^2 - 1$ does not always have a solution. In [1], a elementary proof of a necessary for the solvability of the pell equation $x^2 - Dy^2 = -1$, where D is any positive non-square integer has been presented. For example the equation $y^2 = 3x^2 - 1, y^2 = 7x^2 - 4$ have an integer solutions, where as $y^2 = 47x^2 - 1, y^2 = 20x^2 + 5$ have integer solutions. In this context, one may refer [2]-[11]. In our present study, we obtain a few properties of integer solutions of the negative pell equation $y^2 = 54x^2 - 5$ and also we give a few properties of integer solutions of the negative pell equation $y^2 = Dx^2 - 1$, for a choice of D.

In this communication, the negative pell equation given by $y^2 = 54x^2 - 5$ is considered and a few more integer solutions are obtained. A few interesting relations among the solutions are presented.

2.Methods For Solutions

The negative pell equation represented by the binary quadratic form is

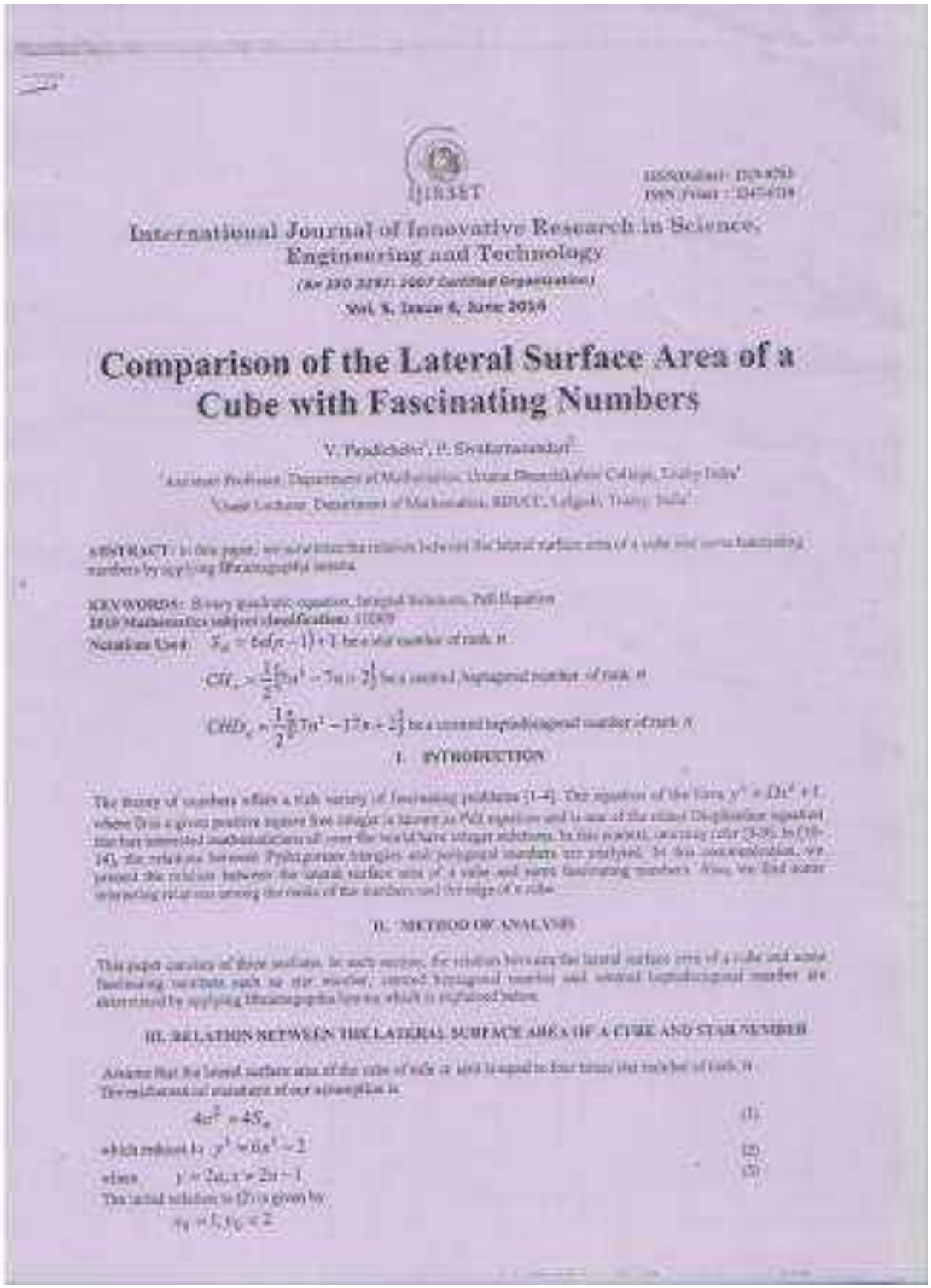
$$y^2 = 54x^2 - 5 \qquad (1)$$

whose smallest positive integer solution is $x_0 = 1, y_0 = 7$. To obtain the other solutions of (1), consider the pell equation

$$y^2 = 54x^2 + 1$$

whose general solution is given by

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJIRSET

ISSN(Online): 2319-8753
ISSN (Print): 2347-6710

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 8, Issue 6, June 2019

Comparison of the Lateral Surface Area of a Cube with Fascinating Numbers

V. Pandichelvi[1], P. Sivakamasundari[2]

[1]Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy-India[1]

[2]Guest Lecturer, Department of Mathematics, SDUCC, Lalgudi, Trichy, India[2]

ABSTRACT: In this paper, we solve some the relation between the lateral surface area of a cube and some fascinating numbers by applying Diophantine equation.

KEYWORDS: Binary quadratic equation, Integral Solutions, Pell Equation

2010 Mathematics subject classification: 11D09

Notation Used: $S_n = 6n(n-1)+1$ be a star number of rank n

$CH_n = \frac{1}{2}\left[7n^2 - 7n + 2\right]$ be a centred hexagonal number of rank n

$CHD_n = \frac{1}{2}\left[7n^2 - 17n + 12\right]$ be a centred heptadecagonal number of rank n

I. INTRODUCTION

The theory of numbers offers a rich variety of fascinating problems [1-4]. The equation of the form $y^2 = Dx^2 + 1$, where D is a given positive square free integer is known as Pell equation and is one of the oldest Diophantine equation that has attracted mathematicians all over the world have integer solutions. In this regard, one may refer [5-9]. In [10-14], the relations between Pythagorean triangles and polygonal numbers are analysed. In this communication, we present the relation between the lateral surface area of a cube and some fascinating numbers. Also, we find some interesting relations among the ranks of the numbers and the edge of a cube.

II. METHOD OF ANALYSIS

This paper consists of three sections. In each section, the relation between the lateral surface area of a cube and some fascinating numbers such as star number, centred hexagonal number and centred heptadecagonal number are determined by applying Diophantine analysis which is explained below.

III. RELATION BETWEEN THE LATERAL SURFACE AREA OF A CUBE AND STAR NUMBER

Assume that the lateral surface area of the cube of side a unit is equal to four times the star number of rank n.

The mathematical statement of our assumption is

$$4a^2 = 4S_n \tag{1}$$

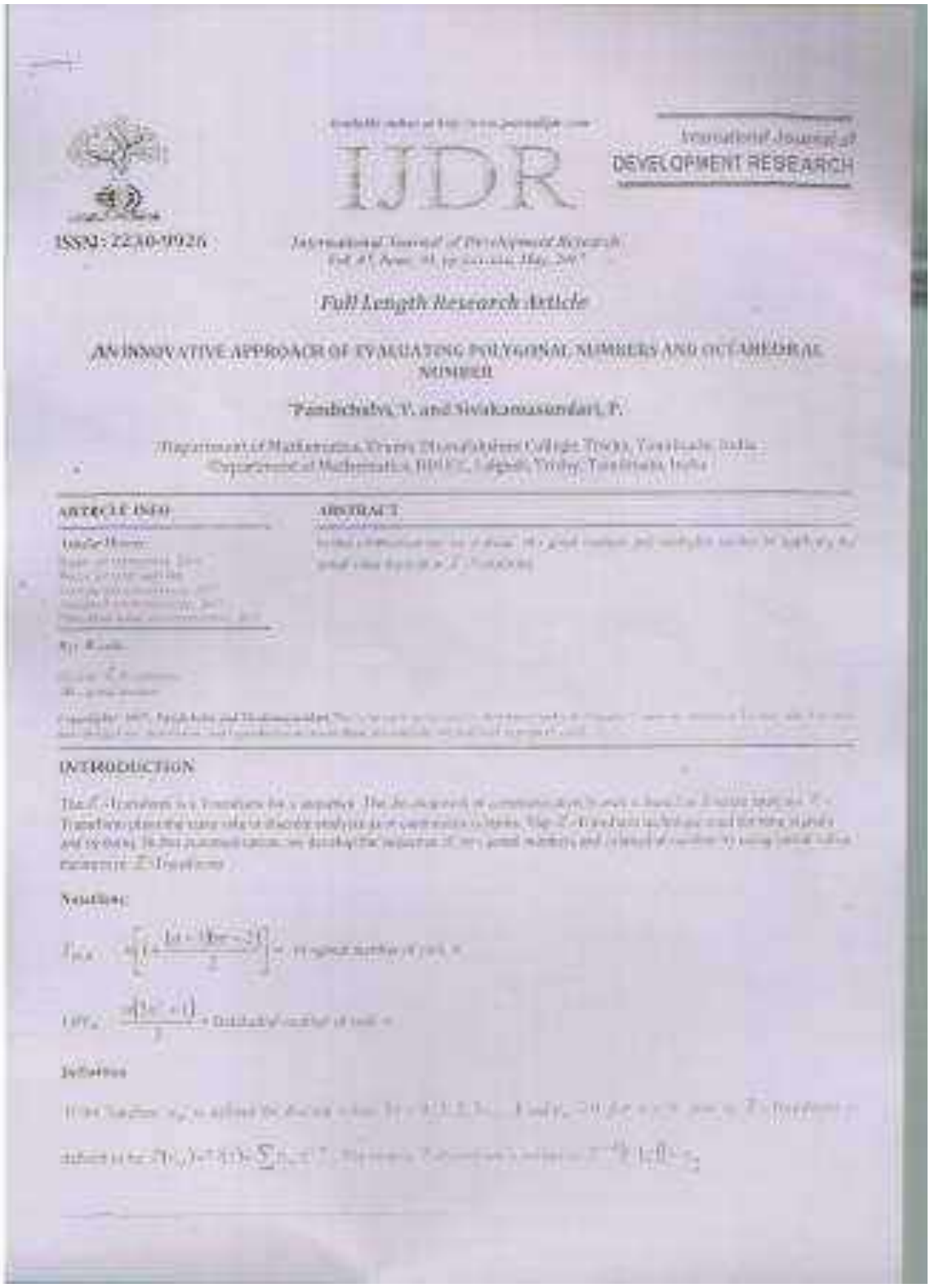
which reduces to $y^2 = 6x^2 - 2$ (2)

where $y = 2a, x = 2n-1$ (3)

The initial solution to (2) is given by

$x_0 = 1, y_0 = 2$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



ISSN: 2230-9926

IJDR

International Journal of DEVELOPMENT RESEARCH

Full Length Research Article

AN INNOVATIVE APPROACH OF EVALUATING POLYGONAL NUMBERS AND OCTAHEDRAL NUMBER

*Pandichelvi, V. and Sivakamasundari, P.

Department of Mathematics, Vivekanandha College for Women, Tiruchengode, India
Department of Mathematics, RVS TC, Dindigul, Trichy, Tamilnadu, India

ARTICLE INFO

Article History:

Key Words:

ABSTRACT

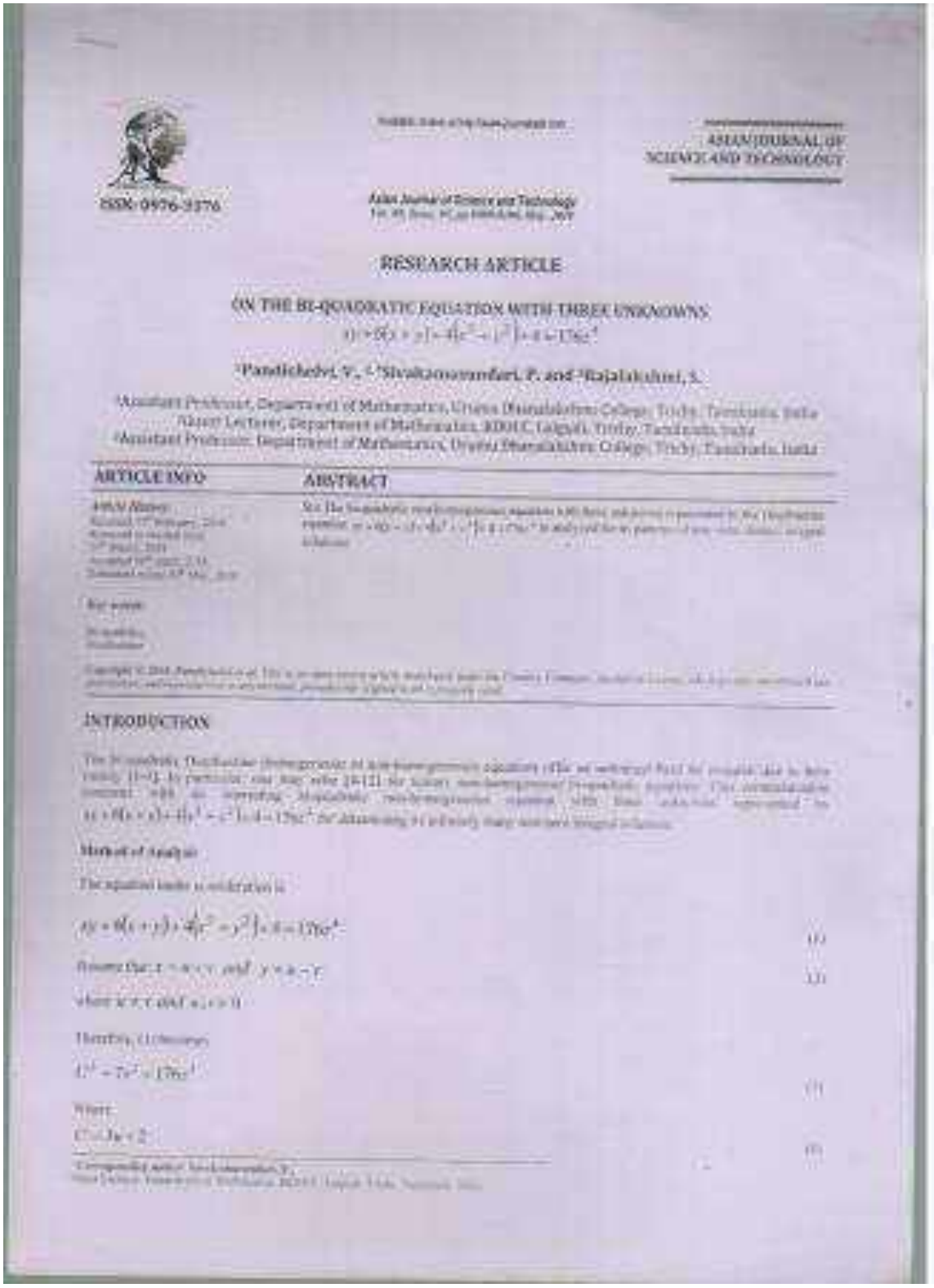
Copyright © 2017, Pandichelvi and Sivakamasundari. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Notation:

Definition

3.3.2. Number of research papers per teacher in the Journals notified on UGC



ISSN: 0976-3376

ASIAN JOURNAL OF SCIENCE AND TECHNOLOGY

Asian Journal of Science and Technology

RESEARCH ARTICLE

ON THE BI-QUADRATIC EQUATION WITH THREE UNKNOWNS

$x(x+y)(x+z)+(y+z)\left[x^2+yz\right]+k=12w^4$

[1]Pandichelvi, V., [2]*Sivakamasundari, P. and [3]Rajalakshmi, S.

[1]Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India
[2]Junior Lecturer, Department of Mathematics, RDMIC, Lalgudi, Trichy, Tamilnadu, India
[3]Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy, Tamilnadu, India

ARTICLE INFO

Article History:
Received 15th February, 2014
Received in revised form
15th March, 2014
Accepted 16th April, 2014
Published online 30th May, 2014

Key words:
Bi-quadratic,
Diophantine.

ABSTRACT

We obtain non-zero integral solutions of the bi-quadratic non-homogeneous equation with three unknowns represented by the Diophantine equation $x(x+y)(x+z)+(y+z)\left[x^2+yz\right]+k=12w^4$. A few relations between the solutions are also given.

Copyright © 2014 Pandichelvi et al. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

The bi-quadratic Diophantine equations are rich in variety and have been studied by many researchers for their non-trivial integral solutions. For instance, one may refer [1-12] for some bi-quadratic equations with three unknowns. In particular, we have been communicated several papers on bi-quadratic non-homogeneous equations with three unknowns represented by the Diophantine equation $x(x+y)(x+z)+(y+z)\left[x^2+yz\right]+k=12w^4$. In this communication, we obtain non-zero integral solutions of the bi-quadratic non-homogeneous equation with three unknowns represented by the Diophantine equation $x(x+y)(x+z)+(y+z)\left[x^2+yz\right]+k=12w^4$. A few relations between the solutions are also given.

Method of analysis

The equation under consideration is

$$x(x+y)(x+z)+(y+z)\left[x^2+yz\right]+k=12w^4 \quad (1)$$

Assume that $x=u+v$, $y=u-v$ (2)

where $u \neq 0$, $v \neq 0$ and $u, v \neq 0$.

Therefore, (1) becomes

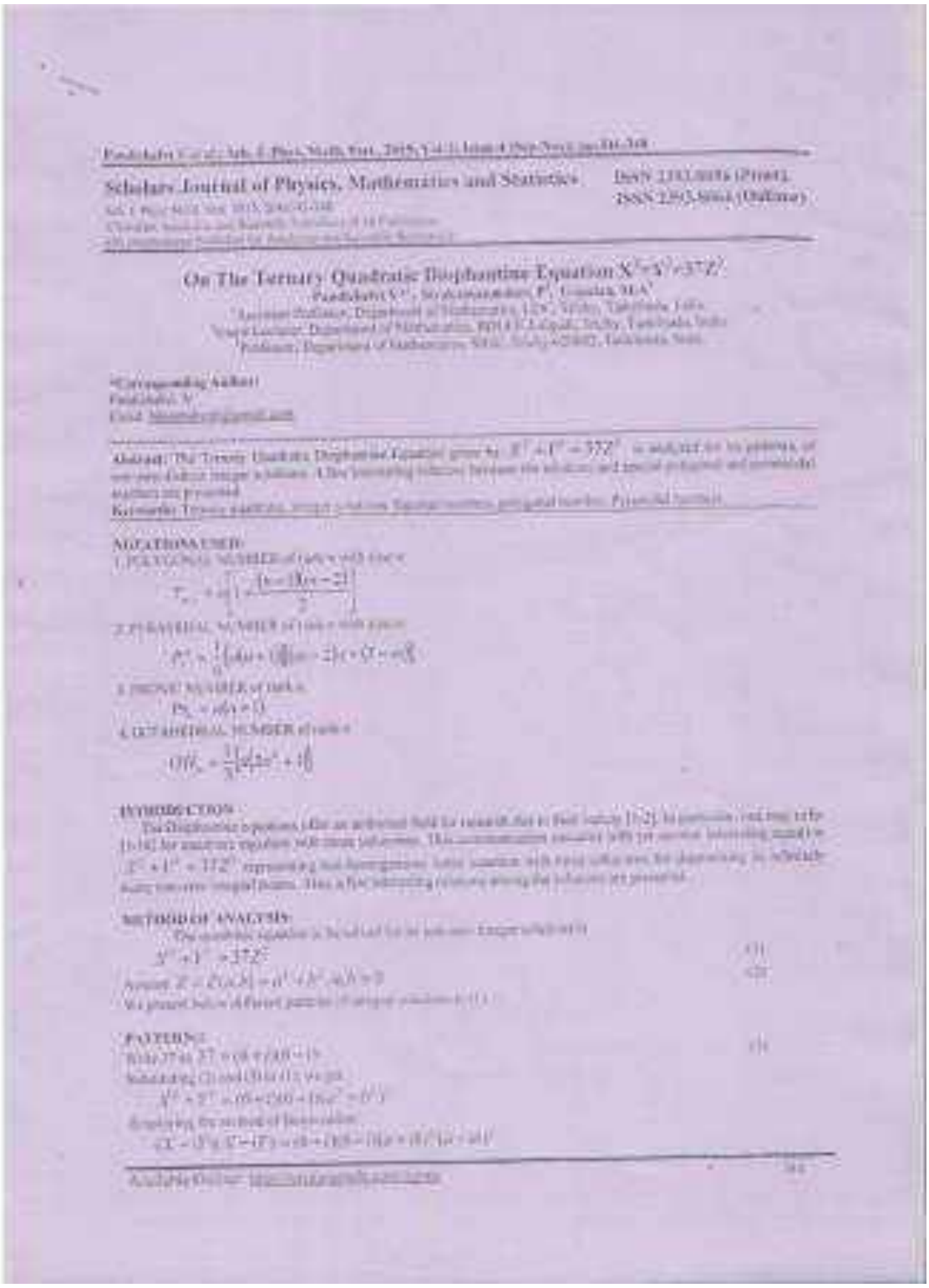
$$U^2=2u^2+12w^4 \quad (3)$$

Where

$U=3u+2v$ (4)

*Corresponding author: Sivakamasundari, P.,
Junior Lecturer, Department of Mathematics, RDMIC, Lalgudi, Trichy, Tamilnadu, India.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Scholars Journal of Physics, Mathematics and Statistics
ISSN 2393-8056 (Print)
ISSN 2393-8064 (Online)

On The Ternary Quadratic Diophantine Equation $X^2+Y^2=37Z^2$

Pandichelvi V[1], Sivakamasundari P[2], Gopalan MA[3]
[1]Assistant Professor, Department of Mathematics, TEPC, Trichy, Tamilnadu, India
[2]Senior Lecturer, Department of Mathematics, RVS (T), Dindigul, Trichy, Tamilnadu, India
[3]Professor, Department of Mathematics, SIGC, Trichy, Tamilnadu, India

*Corresponding Author:
Pandichelvi. V
Email:

Abstract: The Ternary Quadratic Diophantine Equation given by $X^2+Y^2=37Z^2$ is analyzed for its patterns of non-zero distinct integer solutions. A few interesting relations between the solutions and special polygonal and pyramidal numbers are presented.

Keywords: Ternary quadratic, integer solutions, Special numbers, polygonal numbers, Pyramidal numbers.

NOTATIONS USED:

1.POLYGONAL NUMBER of rank n with size m

$$T_{m,n}=n\left(1+\frac{(n-1)(m-2)}{2}\right)$$

2.PYRAMIDAL NUMBER of rank n with size m

$$P_n^m=\frac{1}{6}\left[n(n+1)(3m+n-2)+(n+1)^2+n^2\right]$$

3.PRONIC NUMBER of rank n

$$Pr_n=n(n+1)$$

4.OCTAHEDRAL NUMBER of rank n

$$OH_n=\frac{1}{3}\left[n(2n^2+1)\right]$$

INTRODUCTION:

The Diophantine equations offer an unlimited field for research due to their variety [1-2]. In particular, one may refer [3-16] for ternary quadratic equations with three unknowns. This communication concerns with yet another interesting quadratic equation $X^2+Y^2=37Z^2$ representing non-homogeneous cone quadratic with three unknowns for determining its infinitely many non-zero integral points. Also a few interesting relations among the solutions are presented.

METHOD OF ANALYSIS:

The quadratic equation to be solved for its non-zero integral solutions is

$$X^2+Y^2=37Z^2 \qquad (1)$$

Assume $Z=Z(a,b)=a^2+b^2$, $a,b\neq 0$ (2)

We present below different patterns of integer solutions to (1).

PATTERN 1: (3)

Write $37=(6+\sqrt{1})(6-\sqrt{1})$

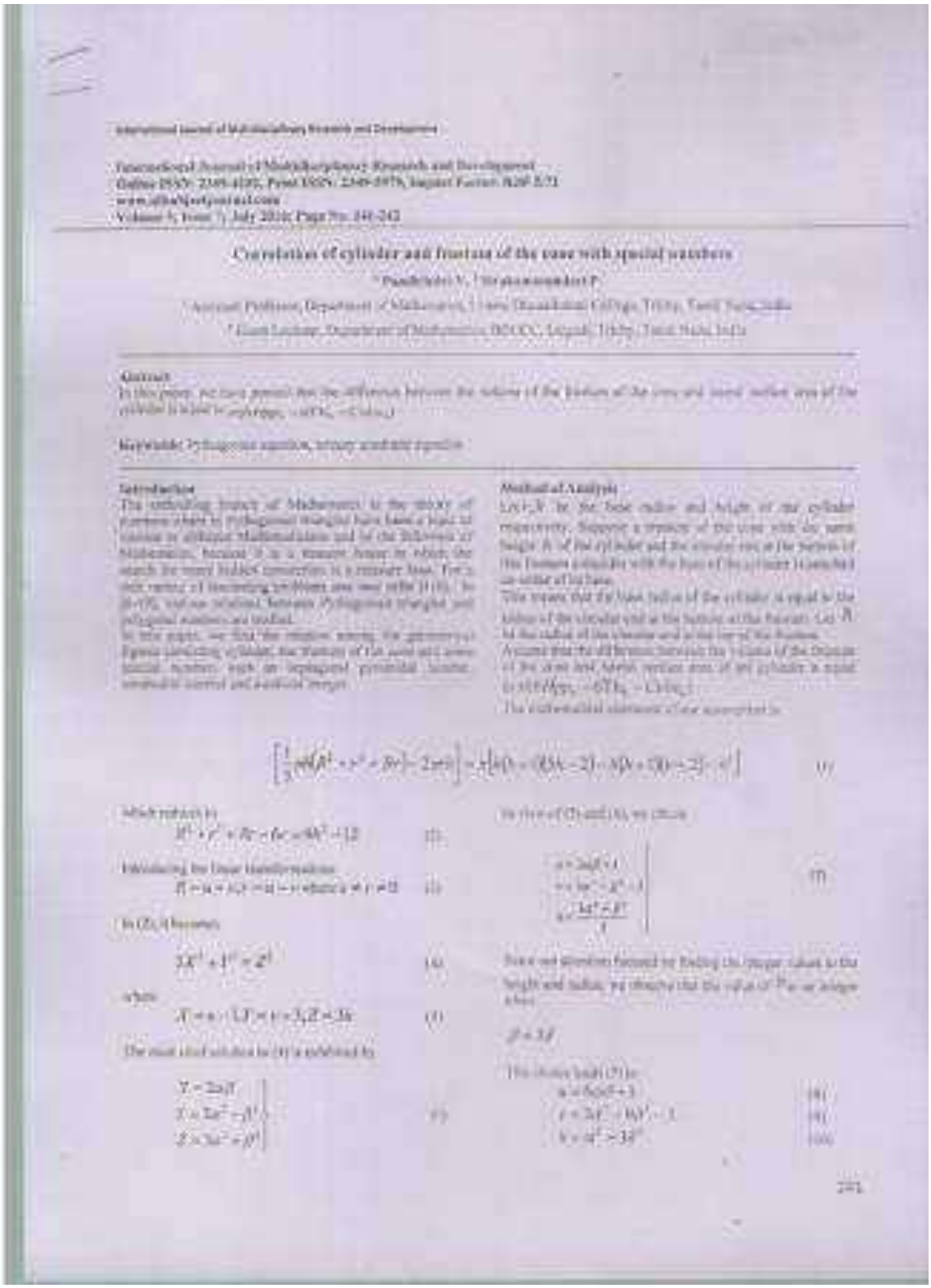
Substituting (2) and (3) in (1), we get

$$X^2+Y^2=(6+\sqrt{1})(6-\sqrt{1})(a^2+b^2)^2$$

Applying the method of factorization

$$(X+\sqrt{1}Y)(X-\sqrt{1}Y)=(6+\sqrt{1})(6-\sqrt{1})(a+\sqrt{1}b)^2(a-\sqrt{1}b)^2$$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Multidisciplinary Research and Development

International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979, Impact Factor: 6.269 IJMRD
www.allmultijournal.com
Volume 5; Issue 7; July 2018; Page No. 240-242

Correlation of cylinder and frustum of the cone with special numbers

[redacted]

[redacted]

[redacted]

Abstract
In this paper, we have proved that the difference between the volume of the frustum of the cone and lateral surface area of the cylinder is equal to eight times a cube. ($8k^3$)

Keywords: Pythagorean equation, ternary quadratic equation

Introduction
The enthralling branch of Mathematics is the theory of numbers where in Pythagorean triangles have been a topic of curiosity in different Mathematicians and for the followers of Mathematics, because it is a research house in which the search for many hidden connections is a constant issue. For a rich variety of fascinating problems and results in [1-15], for [6-15], various relations between Pythagorean triangles and polygonal numbers are studied.
In this paper, we find the relation among the geometrical figures consisting cylinder, the frustum of the cone and some special numbers such as hexagonal pyramidal number, centered octagonal pyramidal number and centered octagonal number.

Method of Analysis
Let r, h be the base radius and height of the cylinder respectively. Suppose a frustum of the cone with the same height h of the cylinder and the circular top at the bottom of the frustum coincides with the base of the cylinder is inscribed in either of its base.
The square that the base radius of the cylinder is equal to the radius of the circular top at the bottom of the frustum. Let R be the radius of the circular end at the top of the frustum.
Assume that the difference between the volume of the frustum of the cone and lateral surface area of the cylinder is equal to $8k^3$, i.e., $\pi h(R^2+Rr+r^2)-6\pi rh=8k^3$.
The mathematical statement of the assumption is

$$\left[\frac{1}{3}\pi h(R^2+Rr+r^2)-2\pi rh\right]=8\left[k^3+(k+1)^3+k^3+(k+1)^3+k^3\right] \quad (1)$$

which reduces to

$$R^2+Rr+r^2-6r=48k^2+12 \quad (2)$$

Introducing the linear transformations

$$R=u+v, r=u-v \text{ where } u\neq v\neq 0 \quad (3)$$

in (2), it becomes

$$3X^2+Y^2=Z^2 \quad (4)$$

where

$$X=u-1, Y=v+3, Z=3k \quad (5)$$

The most third solution to (4) is exhibited by

$$\left.\begin{aligned} X&=2pq\\ Y&=3p^2-q^2\\ Z&=3p^2+q^2\end{aligned}\right\} \quad (6)$$

In view of (3) and (5), we obtain

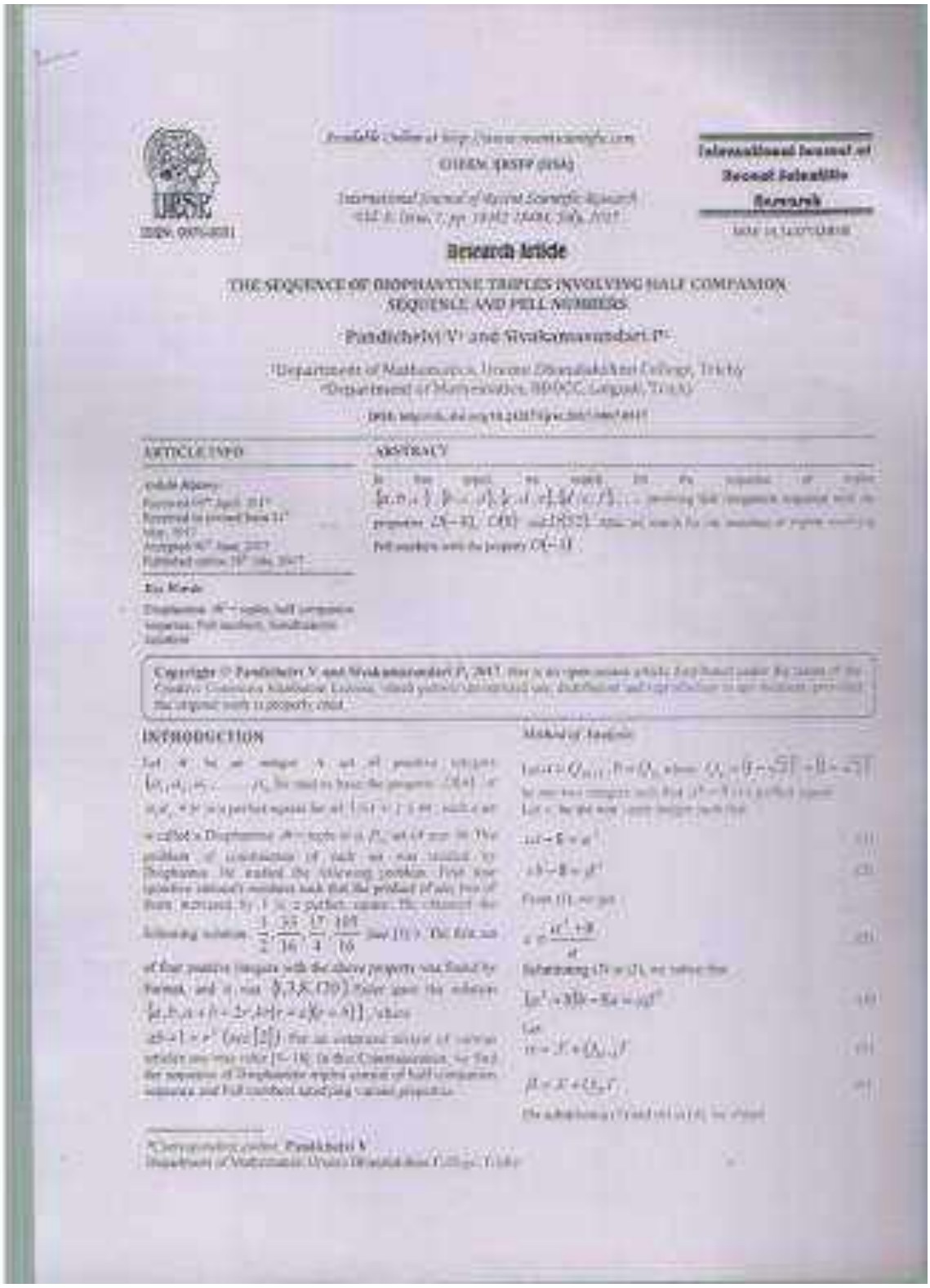
$$\left.\begin{aligned} u&=2pq+1\\ v&=3p^2-q^2-3\\ k&=\frac{3p^2+q^2}{3}\end{aligned}\right| \quad (7)$$

For the divisibility by 3 in the value of k, we assume $p=3P$

The above (7) is

$$\left.\begin{aligned} u&=6pq+1 &(8)\\ v&=3p^2-q^2-3 &(9)\\ k&=3p^2+q^2 &(10)\end{aligned}\right|$$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



ISSN: 0975-833X

Available Online at http://www.journalcra.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research

Vol. 8, Issue, 7, pp. 18402-18404, July, 2017

International Journal of Recent Scientific Research

Research Article

THE SEQUENCE OF DIOPHANTINE TRIPLES INVOLVING HALF COMPANION SEQUENCE AND PELL NUMBERS

Pandichelvi V[1] and Sivakamasundari P[2]*

[1]Department of Mathematics, Urumu Dhanalakshmi College, Trichy

[2]Department of Mathematics, SRMCEC, Lalgudi, Trichy

DOI: http://dx.doi.org/10.24327/ijrsr.2017.0807.0417

ARTICLE INFO

Article History:

Received 07th April, 2017

Received in revised form 21st May, 2017

Accepted 07th June, 2017

Published online 28th July, 2017

Key Words:

Diophantine $(4k^2-1)$-triples, half companion sequence, Pell numbers, Nondiagonal solutions

ABSTRACT

In this paper we obtain all the triples of the form $\{a, b, c\}$ $(a<b<c)$ satisfying the property $D(4k^2-1)$. Also, we find a few examples of triples which do not satisfy the property $D(4k^2-1)$.

Copyright © Pandichelvi V and Sivakamasundari P, 2017, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Let k be an integer. A set of positive integers $\{a_1, a_2, a_3, \ldots, a_n\}$ is said to have the property $D(k^2-1)$ or $a_i a_j + k^2 - 1$ is a perfect square for all $1 \le i < j \le n$, where $k \neq 0$ is called a Diophantine (k^2-1)-tuple or a $P_n(k^2-1)$ set. The problem of construction of such set was studied by Diophantus. He studied the following problem: Find four positive rational numbers such that the product of any two of them increased by 1 is a perfect square. He obtained the following solution $\frac{1}{2}, \frac{33}{16}, \frac{17}{4}, \frac{105}{16}$ for $n=3$. The first set of four positive integers with the above property was found by Fermat and it was $\{1, 3, 8, 120\}$. Euler gave the solution $\{a, b, a+b+2r, 4r(r+a)(r+b)\}$, where $ab+1=r^2$ for an arbitrary choice of r. In a series of papers we [7-10] in this Communication, we find the sequence of Diophantine triples consist of half companion sequence and Pell numbers satisfying various properties.

Method of Analysis

Let $\{a, b, c\}$ $(a<b<c)$ be the triples such that

$$ab - 4k^2 + 1 = \alpha^2 \quad (1)$$

$$ac - 4k^2 + 1 = \beta^2 \quad (2)$$

$$bc - 4k^2 + 1 = \gamma^2 \quad (3)$$

From (1) we get

$$a = \frac{\alpha^2 + 4k^2 - 1}{b} \quad (4)$$

Substituting (4) in (2), we obtain the

$$(\alpha^2 + 4k^2 - 1)c - 4bk^2 + b = b\beta^2 \quad (5)$$

Let

$$\alpha = X + (4k^2 - 1)T \quad (6)$$

$$\beta = X + (4k^2 - 1)T \quad (7)$$

The substitution of (6) and (7) in (5), we obtain

*Corresponding author: Pandichelvi V

Department of Mathematics, Urumu Dhanalakshmi College, Trichy

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Research in Advent Technology (IJRAT) Special Issue, January 2019
E-ISSN: 2321-9637
Available online at www.ijrat.org

International Conference on Applied Mathematics and Bio-Inspired Computations

10th & 11th January 2019

Manifestation of Two Tremendous Sequences Cheldhiya and Cheldhiya Companion Sequences

V. Pandichelvi[1], P. Sandhiya[2]
Department of Mathematics[1]
Thiruvalluvar Government College, Trichy
AMAV college of Arts and Science for Women
pandichelvi19@yahoo.com[1], sandhyamathsvcb2@gmail.com[2]

Abstract- In this paper, two peculiar sequences named as Cheldhiya sequence and Cheldhiya Companion sequence are discovered. The general formula for Cheldhiya sequence is constructed by using the special property called as normalization of the matrix. Also, few fascinate investigating these sequences are elucidated.

Index Terms-Cheldhiya sequence, Cheldhiya Companion sequence, eigenvalues,eigenvectors.

1. INTRODUCTION

The Pell Equation is a quadratic Diophantine equation of the form $x^2 - dy^2 = 1$ where d is a positive square-free integer. The equation $x^2 - dy^2 = 1$ has infinitely many solutions whereas the negative Pell equation $x^2 - dy^2 = -1$ does not always have a solution. In this communication the sequences of the solution to the equations $x^2 - dy^2 = \pm 1$, for certain d,are developed to Cheldhiya sequence and Cheldhiya Companion sequence. Also, a few discoveries are proved based on these sequences.

2. MAIN RESULTS

The x values of the equation $x^2 - dy^2 = \pm 1$ for certain non-zero square-free integer d can be

$$x_n = 2kx_{n-1} + x_{n-2} \qquad k = 1,2,3\ldots, n \geq 2$$

with initial values $x_0 = 1, x_1 = k$.

Hariti and Ayari [6] related and $n^2 + 2$where k indicates the order of the sequence while n indicates the number of terms in the k^{th}order sequence.

Define the Cheldhiya sequence matrix as

$$T = \begin{pmatrix} 2k & 1 \\ 1 & 0 \end{pmatrix}$$

Now,

$$T\begin{pmatrix} x_1 \\ x_0 \end{pmatrix} = \begin{pmatrix} 2k & 1 \\ 1 & 0 \end{pmatrix}\begin{pmatrix} k \\ 1 \end{pmatrix} = \begin{pmatrix} 2k^2+1 \\ k \end{pmatrix} = \begin{pmatrix} x_2 \\ x_1 \end{pmatrix}$$

Also,

generally sequenced as $0, 1, 2k, 4k^2 + 1, 8k^3 + 4k, \ldots$ called as **Cheldhiya sequence**. The nth term of this sequence is generated by the recurrence relation

$$x_n = 2kx_{n-1} + x_{n-2} \qquad k = 1,2,3, \ldots, n \geq 1.$$

with initial values $x_0 = 0, x_1 = 1$.

The x values of the equation $x^2 - dy^2 = \pm 1$ for certain non-zero square-free integer d can be generally sequenced as $1, k, 2k^2 + 1, 4k^3 + 3k, \ldots$ called as **Cheldhiya Companion Sequence**. The nth term of this sequence is generated by the recurrence relation

$$x_n = 2kx_{n-1} + x_{n-2} \qquad k = 1,2,3, \ldots, n \geq 1.$$

with initial values $x_0 = 1, x_1 = k$.

$$T\begin{pmatrix} x_1 \\ x_0 \end{pmatrix} = \begin{pmatrix} 2k & 1 \\ 1 & 0 \end{pmatrix}\begin{pmatrix} 2k \\ 1 \end{pmatrix} = \begin{pmatrix} 4k^2+1 \\ 2k \end{pmatrix} = \begin{pmatrix} x_2 \\ x_1 \end{pmatrix}$$

In general,

$$T\begin{pmatrix} x_n \\ x_{n-1} \end{pmatrix} = \begin{pmatrix} x_{n+1} \\ x_n \end{pmatrix}$$

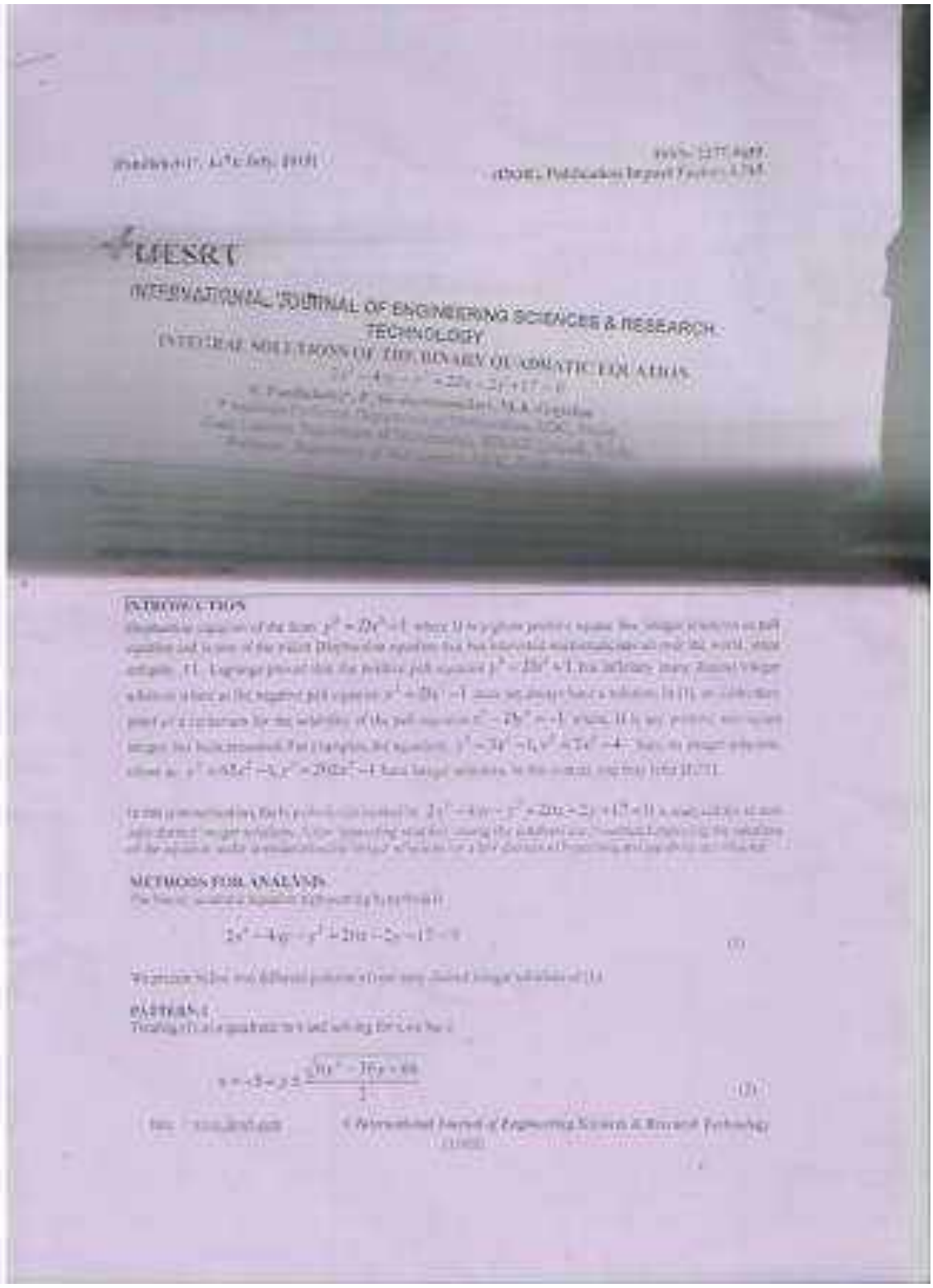
Theorem 2.1

If $T = \begin{pmatrix} 2k & 1 \\ 1 & 0 \end{pmatrix}$ is a Cheldhiya sequence matrix, then

(i) $T^n = \begin{pmatrix} x_{n+1} & x_n \\ x_n & x_{n-1} \end{pmatrix}$ for all $n \in z^+$.

(ii) $T^n\begin{pmatrix} x_1 \\ x_0 \end{pmatrix} = \begin{pmatrix} x_{n+1} \\ x_{n+1-1} \end{pmatrix}$ for all $n, k \neq z^+$.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

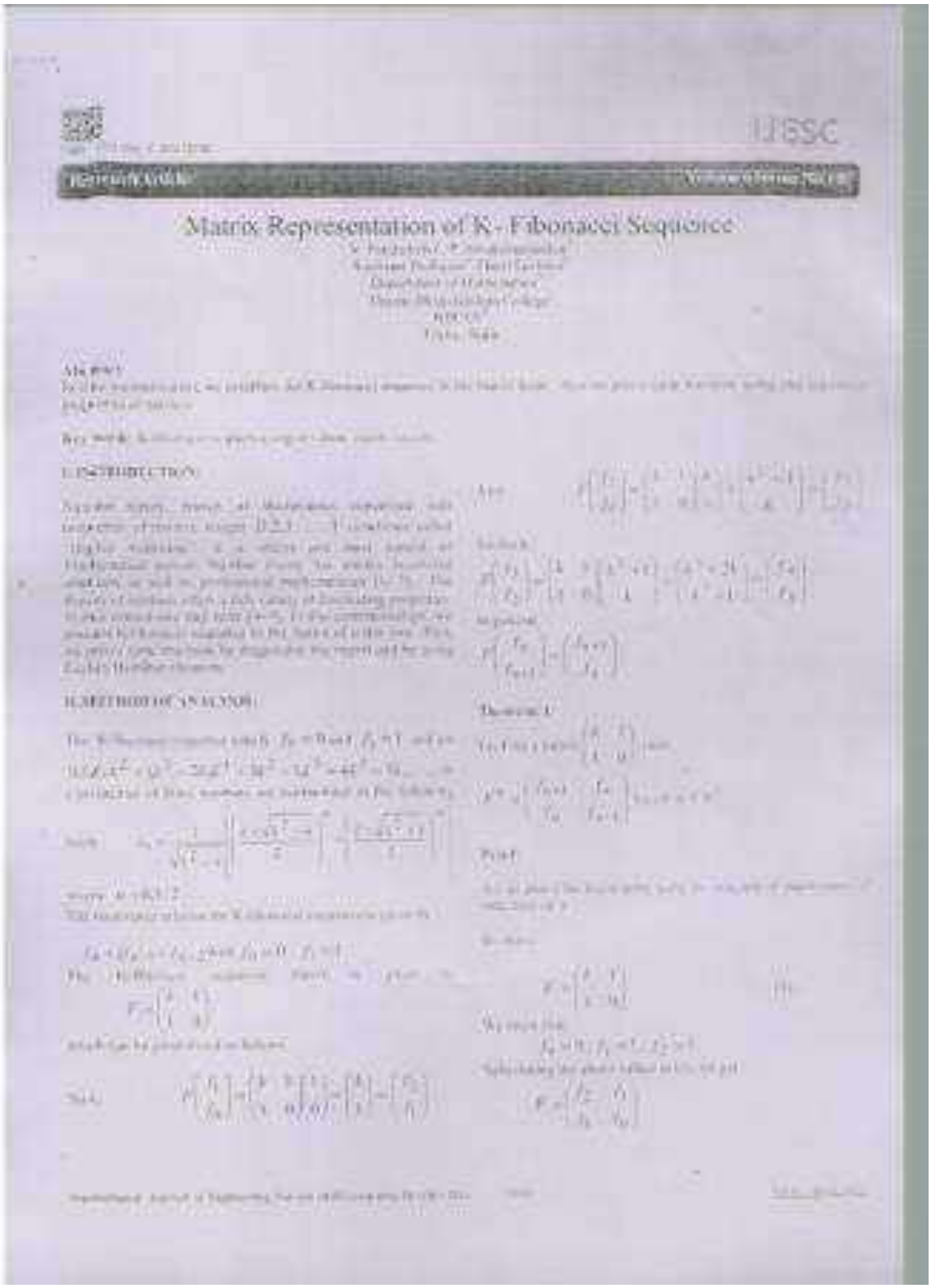
INTEGRAL SOLUTIONS OF THE BINARY QUADRATIC EQUATIONS

INTRODUCTION

METHODS FOR ANALYSIS

PATTERN I

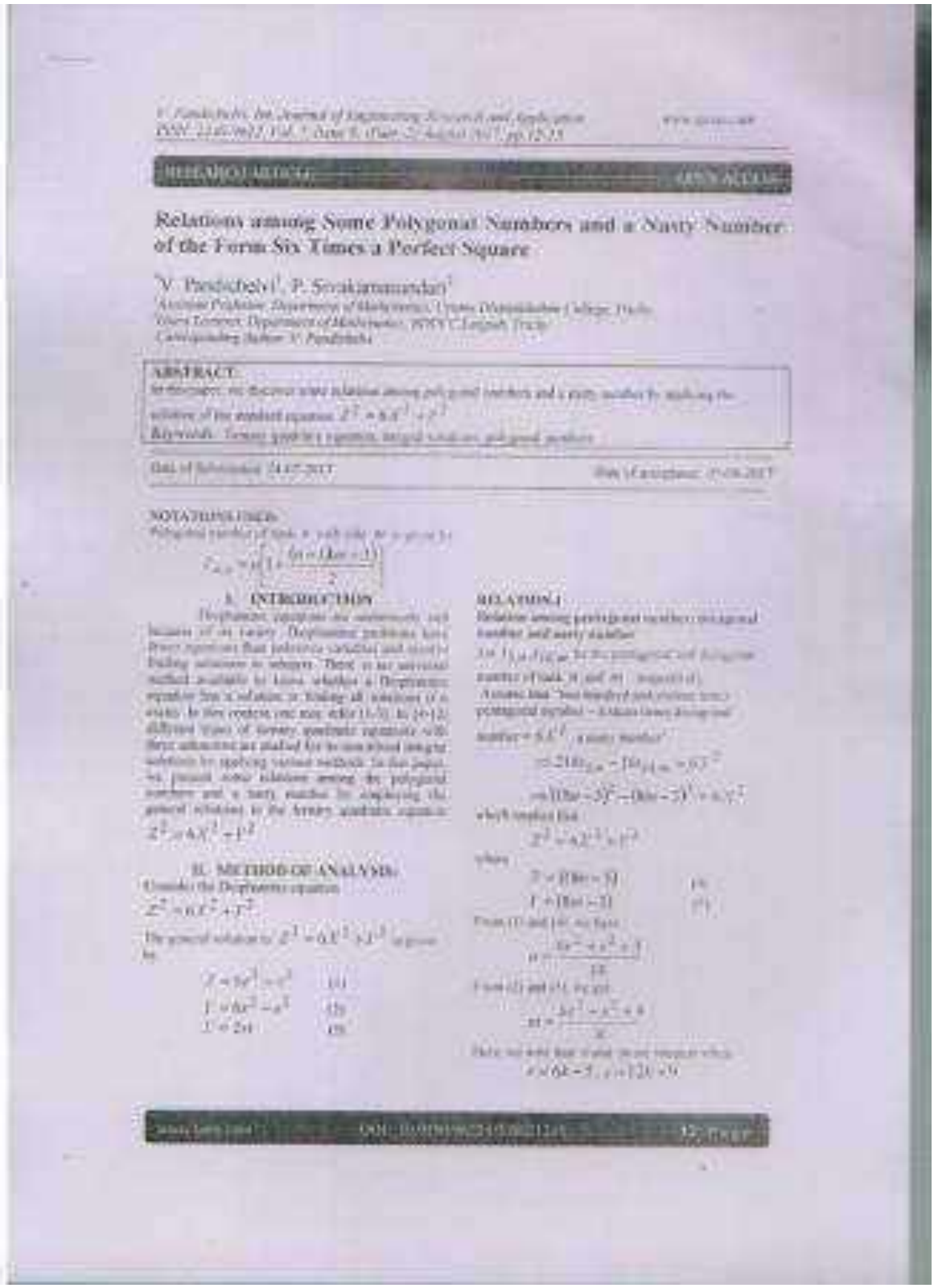
3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJESC

Matrix Representation of K- Fibonacci Sequence

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Relations among Some Polygonal Numbers and a Nasty Number of the Form Six Times a Perfect Square

V. Pandichelvi[1], P. Sivakamasundari[2]

ABSTRACT:

Keywords:

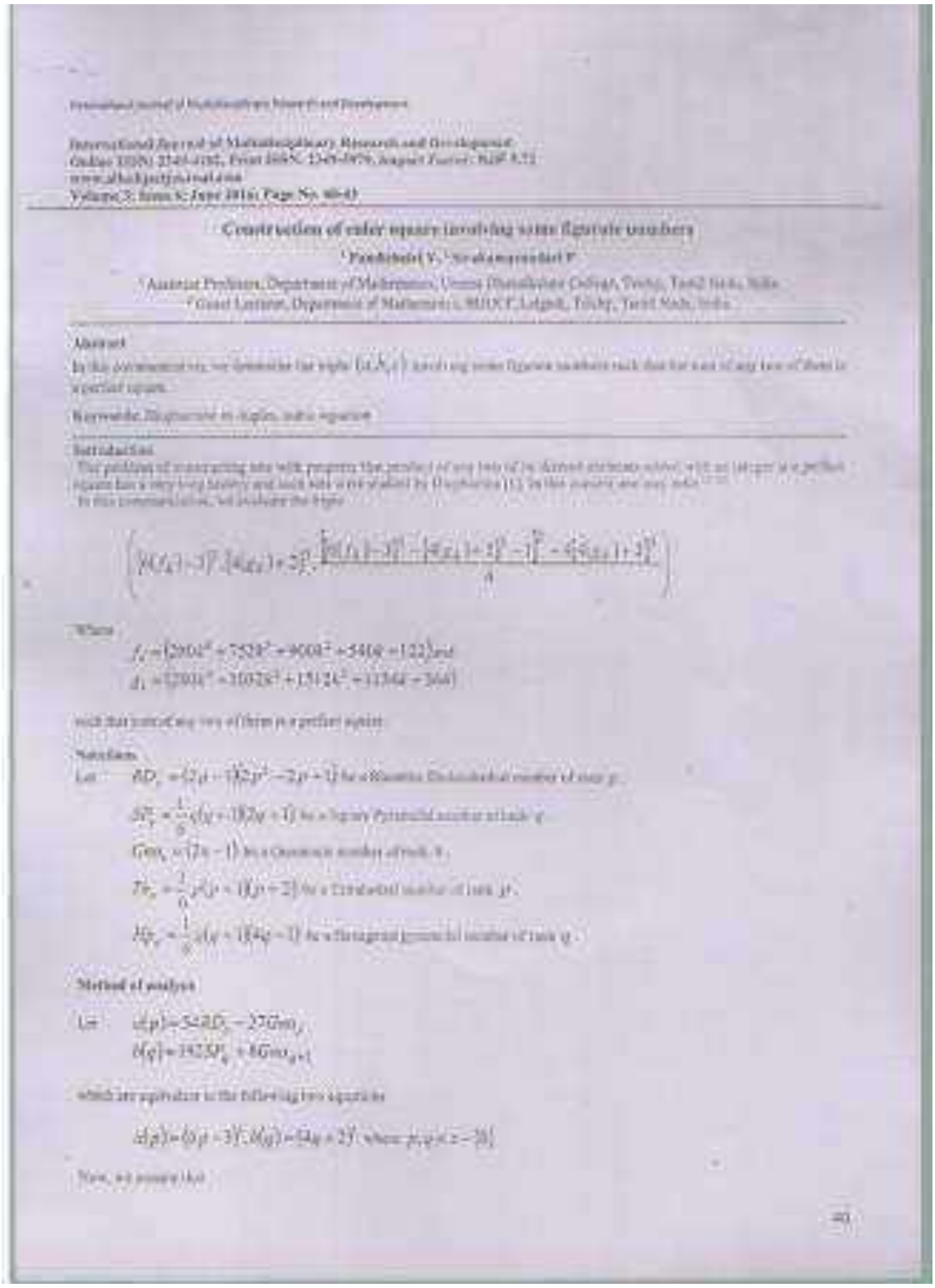
NOTATIONS USED:

1. INTRODUCTION

2. METHOD OF ANALYSIS:

RELATIONS

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979, Impact Factor: RJIF 5.72
www.allsubjectjournal.com
Volume 3; Issue 6; June 2016; Page No. 40-43

Construction of euler square involving some figurate numbers

[1] Pandichelvi V., [2] Sivakamasundari P

[1] Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy, Tamil Nadu, India
[2] Guest Lecturer, Department of Mathematics, BHEL(T), Trichy, Tamil Nadu, India

Abstract

In this communication, we determine the triple (a,b,c) involving some figurate numbers such that for each of any two of them is a perfect square.

Keywords: Diophantine equation, euler square

Introduction

The problem of constructing sets with property that product of any two of its distinct elements added with 1 is always a perfect square has a very long history and such sets are called by Diophantus [1]. In this context one may refer [2].

In this communication, we consider the triple

$$\left(\frac{3(P_4+1)^2-2}{8},\ 3(P_4+1)^2-2,\ \frac{9(P_4+1)^4-4(P_4+1)^2-12}{8}\right)$$

Where

$$P_4=\{2n(n^2+7n+8)^2+7n(n+8)^2+9n(n^2+7n+8)+5n(n+8)+12n\}n\in$$

$$P_4=\{2n(n^2+10n+25)^2+15n(n+5)^2+11n(n+5)+36n\}$$

such that product any two of them is a perfect square.

Notations

Let $HD_p=(2p-1)(2p^2-2p+1)$ be a Hexadic Decagonal number of rank p.

$SP_p=\frac{1}{6}p(p+1)(2p+1)$ be a Square Pyramidal number of rank p.

$Gno_n=(2n-1)$ be a Gnomonic number of rank n.

$Pr_p=\frac{1}{6}p(p+1)(p+2)$ be a Pronic number of rank p.

$Hp_p=\frac{1}{6}p(p+1)(4p-1)$ be a Hexagonal pyramidal number of rank p.

Method of analysis

Let $a(p)=54HD_p-27Gno_p$

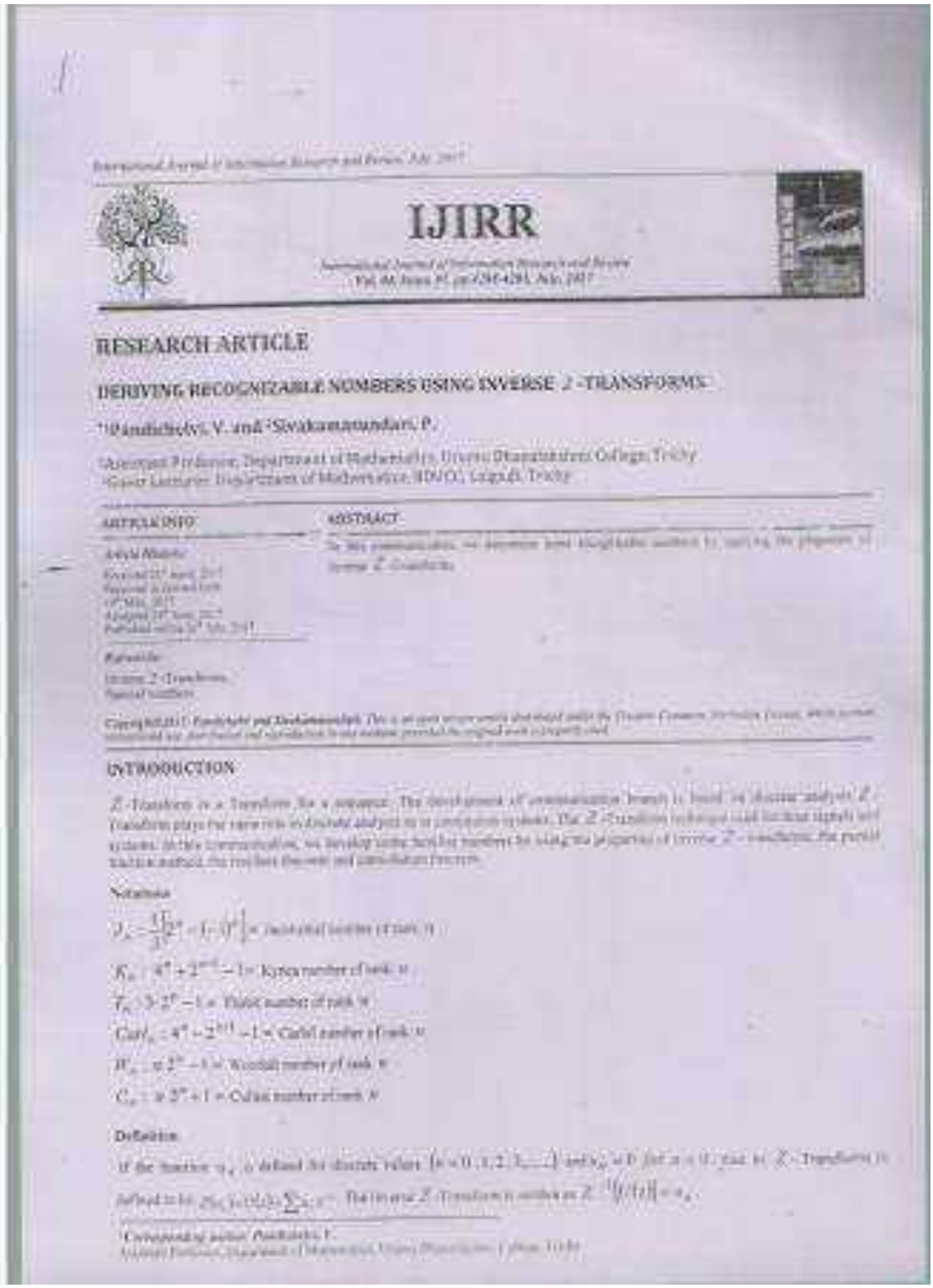
$b(q)=192SP_q+8Gno_{q+1}$

which are equivalent to the following two equations

$$a(p)=(6p-3)^2,\ b(q)=(8q+2)^2,\ \text{where } p,q=1,2,3,\ldots$$

Now, we assume that

3.3.2. Number of research papers per teacher in the Journals notified on UGC



IJIRR

International Journal of Information Research and Review
Vol. 04, Issue 07, pp 4284-4285, July, 2017

RESEARCH ARTICLE

DERIVING RECOGNIZABLE NUMBERS USING INVERSE $\mathcal{Z}$ -TRANSFORMS

*1Pandiselvi, V. and 2Sivakamasundari, P.

1Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy
2Guest Lecturer, Department of Mathematics, BDU-CC, Lalgudi, Trichy

ARTICLE INFO

Article History:
Received 25th April, 2017
Received in revised form
15th May, 2017
Accepted 27th June, 2017
Published online 30th July, 2017

Keywords:
Inverse $\mathcal{Z}$-Transform,
Special numbers.

Copyright©2017, Pandiselvi and Sivakamasundari. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

In this communication, we determine some recognizable numbers by using the properties of inverse $\mathcal{Z}$-transforms.

INTRODUCTION

$\mathcal{Z}$-Transform is a Transform for a sequence. The development of communication branch is based on discrete analysis. $\mathcal{Z}$-Transform plays the same role in discrete analysis as in continuous systems. The $\mathcal{Z}$-Transform technique could be used to analyze signals and systems. In this communication, we develop some tools for numbers by using the properties of inverse $\mathcal{Z}$ - transforms, the partial fraction method, the residue theorem and convolution theorem.

Notations

$J_n = \frac{1}{3}\left[2^n - (-1)^n\right]$ = Jacobsthal number of rank n

$K_n = 4^n + 2^{n-1} - 1$ = Kynea number of rank n

$T_n = 3\cdot 2^n - 1$ = Thabit number of rank n

$Cal_n = 4^n - 2^{n+1} - 1$ = Cullé number of rank n

$W_n = n\,2^n - 1$ = Woodall number of rank n

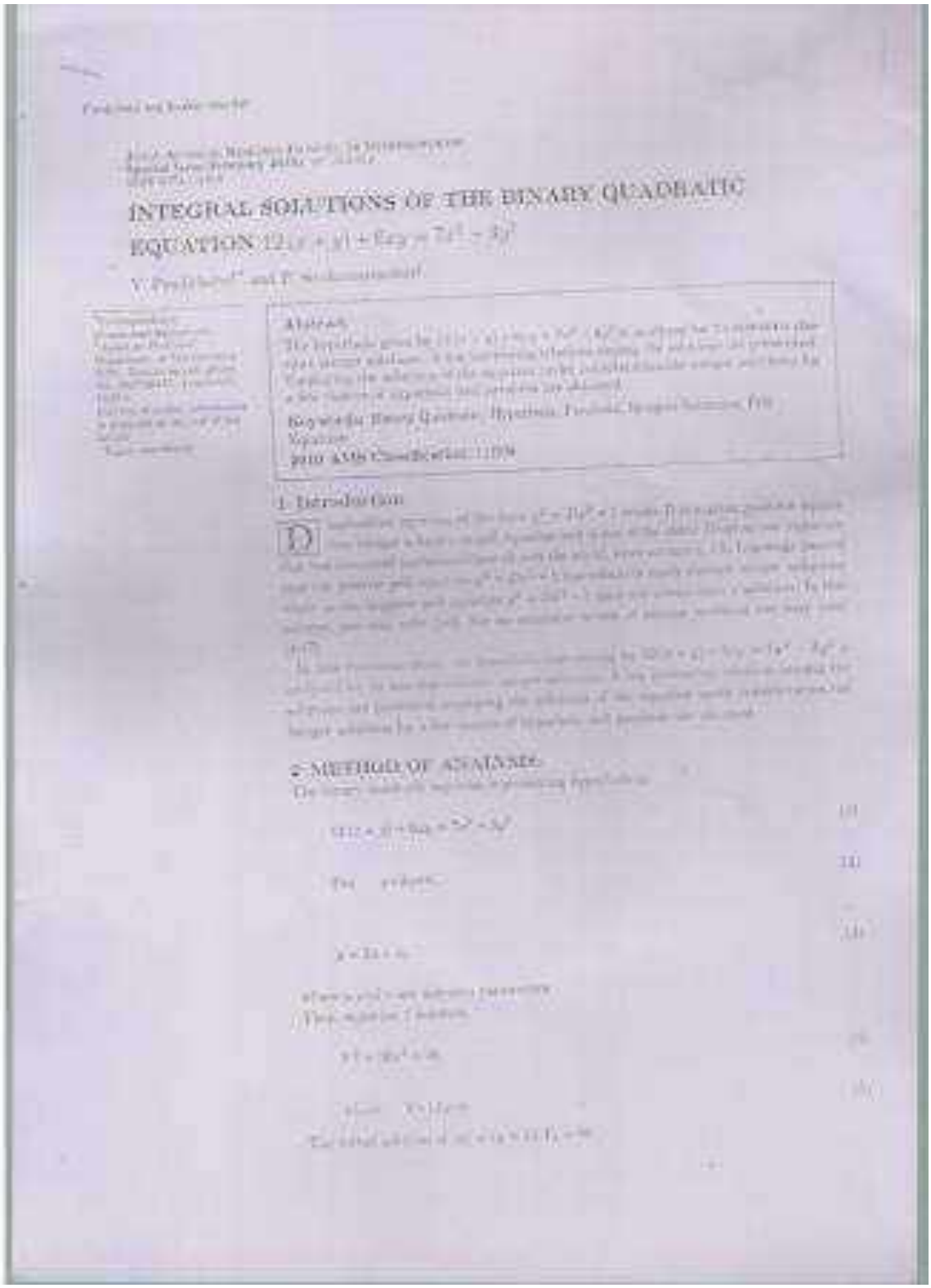
$C_n = n\,2^n + 1$ = Cullen number of rank n

Definition

If the function u_n is defined for discrete values $\{n = 0, 1, 2, 3, \ldots\}$ and $u_n = 0$ for $n < 0$, then its $\mathcal{Z}$-Transform is defined to be $\mathcal{Z}\{u_n\} = U(z) = \sum_{n=0}^{\infty} u_n z^{-n}$. The inverse $\mathcal{Z}$-Transform is written as $\mathcal{Z}^{-1}\{U(z)\} = u_n$.

*Corresponding author: Pandiselvi, V.,
Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy

3.3.2. Number of research papers per teacher in the Journals notified on UGC



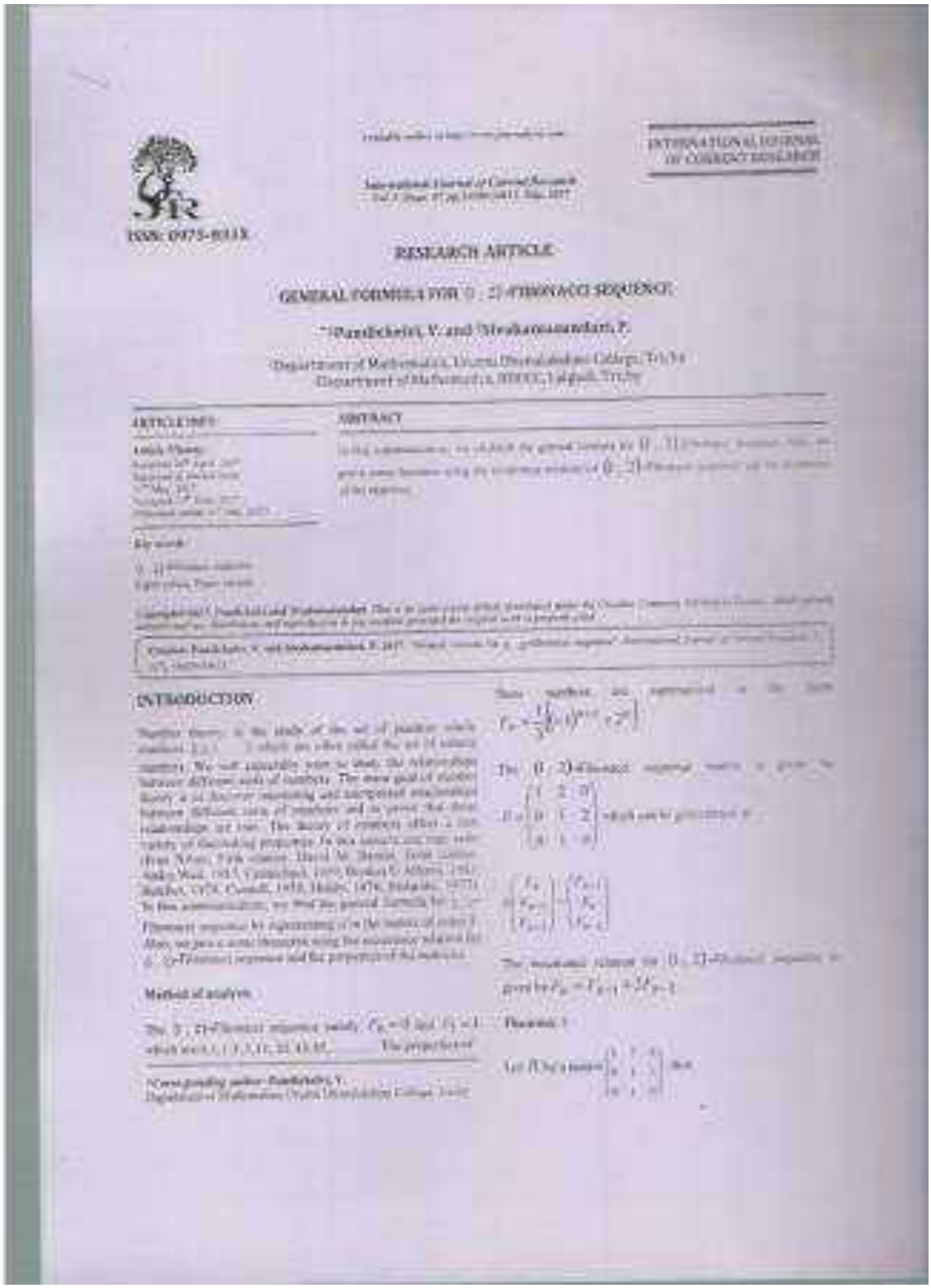
INTEGRAL SOLUTIONS OF THE BINARY QUADRATIC EQUATION

Abstract

1. Introduction

2. METHOD OF ANALYSIS

3.3.2. Number of research papers per teacher in the Journals notified on UGC



ISSN: 0975-833X

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

GENERAL FORMULA FOR (0 , 2)-FIBONACCI SEQUENCE

*1Pandichelvi, V. and 2Sivakamasundari, P.

Department of Mathematics, Urumu Dhanalakshmi College, Trichy
Department of Mathematics, SIWCC, Palpak, Trichy

ARTICLE INFO

Article History:
Received 20th June, 2017
Received in revised form
17th May, 2017
Accepted 24th June, 2017
Published online 31st July, 2017

Key words:
(0 , 2)-Fibonacci sequence
Lucas sequence, Binet formula

ABSTRACT

In this paper, we introduce the general formula for (0 , 2)-Fibonacci sequence. Also, we give a new formula using the recurrence relation of (0 , 2)-Fibonacci sequence and its properties of the sequence.

Copyright © Pandichelvi, V. and Sivakamasundari, P. 2017, This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Pandichelvi, V. and Sivakamasundari, P. 2017. "General formula for (0 , 2)-Fibonacci sequence", International Journal of Current Research, 9, (07), 54156-54161.

INTRODUCTION

Number theory is the study of the set of positive whole numbers {1, 2, 3, ...} which are often called the set of natural numbers. We will consider now to study the relationships between different sorts of numbers. The most goal of number theory is to discover interesting and unexpected relationships between different sorts of numbers and to prove that these relationships are true. The history of numbers offers a rich variety of fascinating properties. In this research we will refer (Ivan Niven, Zuckerman, Harold S. Shapiro, Leon Ledermann, Weiss, 1913, Vinogradov, 1891, Dirichlet G. Alfken, 1861, Robbins, 1924, Cassels, 1918, Heilbr, 1876, Erdős, 1913). In this communication, we find the general formula for (0 , 2)-Fibonacci sequence by representing it in the matrix of order 3. Also, we give a some theorems using the recurrence relation for (0 , 2)-Fibonacci sequence and the properties of the matrices.

Method of analysis

The (0 , 2)-Fibonacci sequence namely, $F_0 = 0$ and $F_1 = 1$ which are 0, 1, 2, 3, 4, 6, 10, 16, 26, 42, 68, 110, ... The properties of

*Corresponding author: Pandichelvi, V.
Department of Mathematics, Urumu Dhanalakshmi College, Trichy

these numbers are represented in the form $F_n = \frac{1}{3}\left[2^{n+1} + 2^n\right]$.

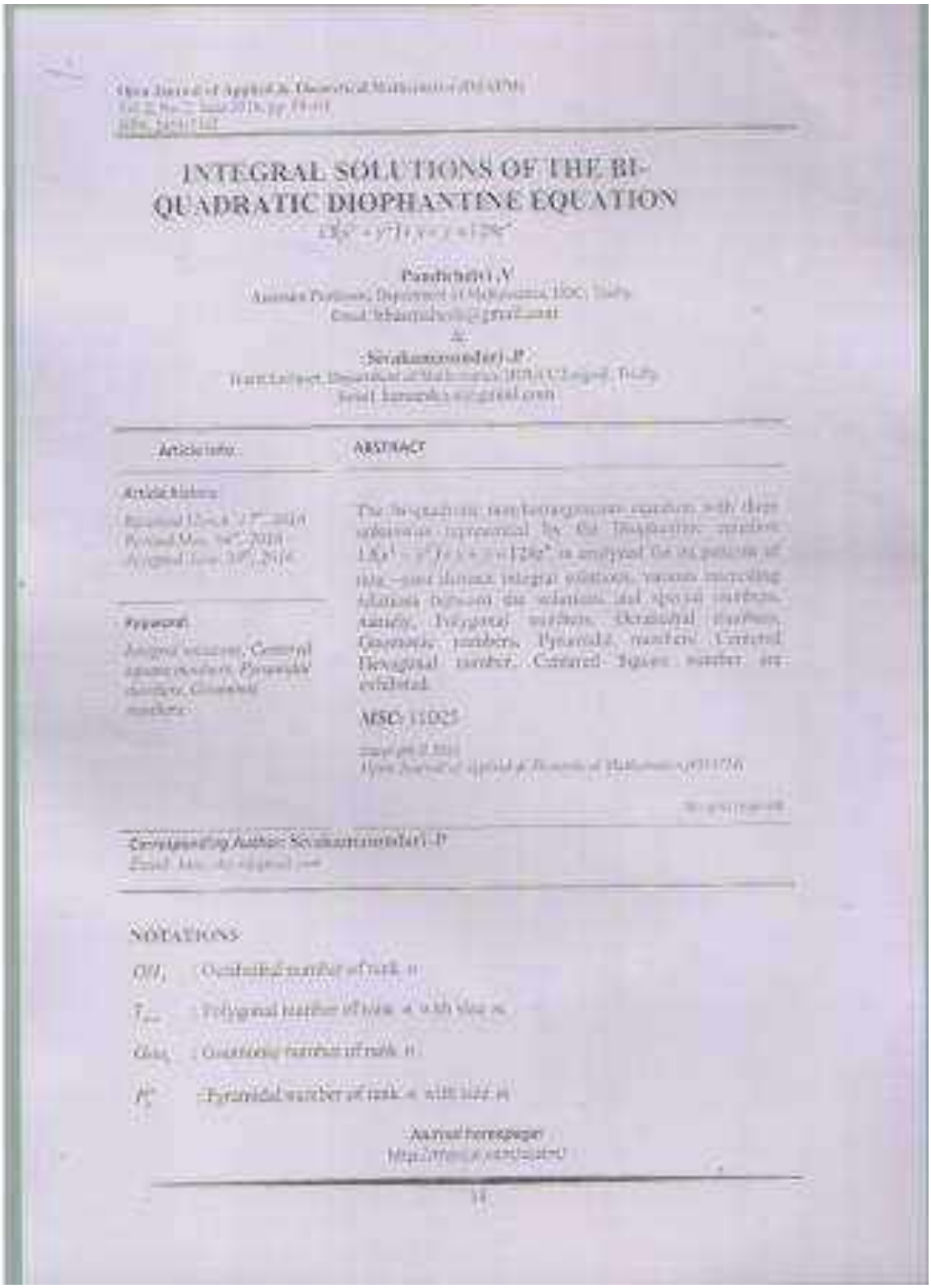
The (0 , 2)-Fibonacci sequence matrix is given by $A = \begin{bmatrix} 1 & 2 & 0 \\ 0 & 1 & 2 \\ 2 & 1 & 0 \end{bmatrix}$ which can be generalized as $A^n = \begin{bmatrix} F_n & 2F_{n-1} & 0 \\ F_{n-1} & F_n & 2F_{n-1} \\ 2F_{n-1} & F_{n-1} & F_n \end{bmatrix}$.

The recurrence relation for (0 , 2)-Fibonacci sequence is given by $F_n = F_{n-1} + 2F_{n-2}$.

Theorem 1

Let B be a matrix $\begin{bmatrix} 1 & 2 & 0 \\ 0 & 1 & 2 \\ 2 & 1 & 0 \end{bmatrix}$ then

3.3.2. Number of research papers per teacher in the Journals notified on UGC



INTEGRAL SOLUTIONS OF THE BI-QUADRATIC DIOPHANTINE EQUATION

Pandichelvi.V

Sivakamasundari.P

Article info

Keywords:

ABSTRACT

MSC: 11D25

Corresponding Author: Sivakamasundari.P

NOTATIONS

OH_n : Octahedral number of rank n

$T_{m,n}$: Polygonal number of rank n with size m

Gno_n : Gnomonic number of rank n

Pr_n^m : Pyramidal number of rank n with size m

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN (ONLINE): 2250-0758, ISSN (PRINT): 2394-6962

International Journal of Engineering and Management Research

Observations on Total the Surface Area of the Cuboid and Polygonal Numbers

M. A. Gopalan[1], V. Sivakamasundari[2]*

[1]Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi College, Trichy, INDIA

[2]Guest Lecturer, Department of Mathematics, BDCCC Lalgudi, Trichy, INDIA

ABSTRACT

In this paper, we evaluate the dimensions of the Cuboid, the ranks of triangular number and Dodecagonal number such that the relation $2\times TSA = 3T_{3,n} - 5T_{12,n}$ is satisfied. Also, we determine the dimensions of the Cuboid, the ranks of pentagonal number and hexagonal number such that the relation $\frac{1}{2}\times TSA = 9T_{5,n} - 32T_{6,n}$ is satisfied.

Keywords: Quadratic equation with four unknowns, Polygonal numbers, Ramanujan equation.

I. NOTATIONS USED

$T_{3,n} = \frac{1}{2}(n^2 + n)$ be a triangular number of rank n.

$T_{5,n} = \frac{1}{2}(3n^2 - n)$ be a pentagonal number of rank n.

$T_{6,n} = 2n^2 - n$ be a hexagonal number of rank n.

$T_{12,n} = 5n^2 - 3n$ be a dodecagonal number of rank n.

TSA – Total surface area of the Cuboid

II. INTRODUCTION

Diophantine problems form a vital part of the celebrated classical Mathematical problems. Curves from physical problems as well as from common Mathematical generalizations and others arise from geometrical (or) a variety of ways [1-3]. In [4-15], different relations between the Pythagorean triangle and some polygonal numbers are available. In this communication, we find out the relation between the cuboid area of the cuboid and some polygonal numbers. In particular, we evaluate the dimensions of the Cuboid, the ranks of triangular number and Dodecagonal number such that the relation $2\times TSA = 3T_{3,n} - 5T_{12,n}$ is satisfied. Also, we determine the dimensions of the Cuboid, the ranks of pentagonal number and hexagonal number such that the relation $\frac{1}{2}\times TSA = 9T_{5,n} - 32T_{6,n}$ is satisfied.

III. METHOD OF ANALYSIS

Let us consider the cuboid of the length, breadth and height be l, b and h respectively.

Then, the Total surface area of the Cuboid $= 2(lb + bh + hl)$. The detailed explanation of the connection between the total surface area of the cuboid, triangular number, dodecagonal number, pentagonal number and hexagonal number are given in the following two sections.

SECTION: 1

The Total Surface Area of the Cuboid, Triangular Number and Dodecagonal Number

Assume that

$$2\times TSA = 3T_{3,n} - 5T_{12,n}$$

which implies that

$$4(lb + bh + hl) = (4n+2)^2 - (5n-2)^2 \quad (1)$$

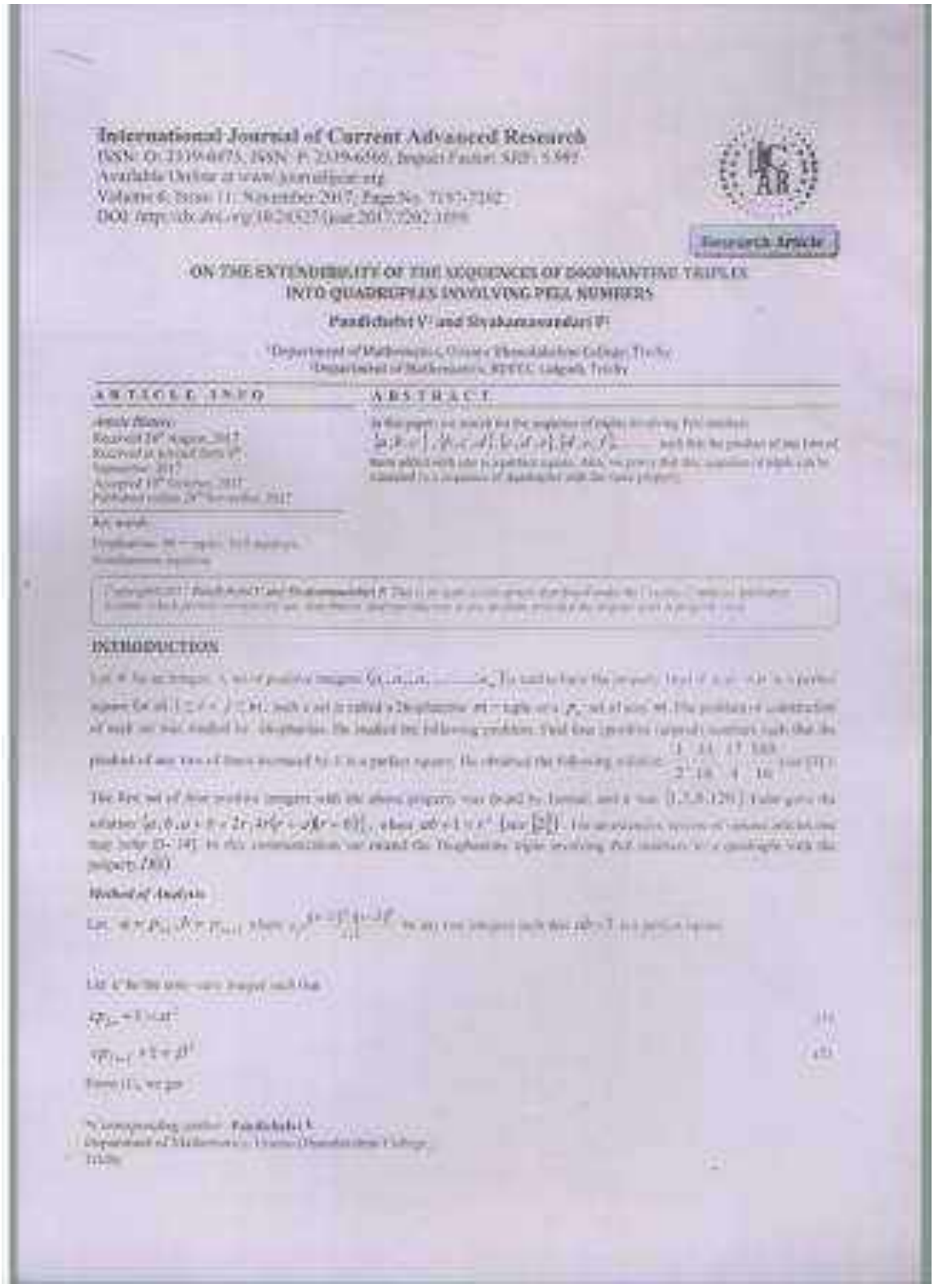
Introduction of the linear transformations

$$l = \alpha + \beta,\ b = \alpha + \gamma,\ h = \beta - \gamma \quad \text{where} \quad \alpha \neq \beta \neq \gamma \neq 0 \quad (2)$$

in (1), we obtain that

$$(9n)^2 - (5n-2)^2 = (2\alpha)^2 - (4\gamma+2)^2 \quad (3)$$

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6566, Impact Factor: SJIF: 5.995
Available Online at www.journalijcar.org
Volume 6; Issue 11; November 2017; Page No. 7197-7202
DOI: http://dx.doi.org/10.24327/ijcar.2017.7202.1098

Research Article

ON THE EXTENDIBILITY OF THE SEQUENCES OF DIOPHANTINE TRIPLES INTO QUADRUPLES INVOLVING PELL NUMBERS

Pandichelvi V[1] and Sivakamasundari P[2]

[1]Department of Mathematics, Urumu Dhanalakshmi College, Trichy
[2]Department of Mathematics, RVS TEC, Coimbatore, Trichy

ARTICLE INFO

Article History:
Received 24th August, 2017
Received in revised form 9th September, 2017
Accepted 10th October, 2017
Published online 28th November, 2017

Key words:
Diophantine triples, Pell numbers, Diophantine equation

ABSTRACT

In this paper, we search for the solutions of triples involving Pell numbers $\{a, b, c = [\ ,\ ,\ ]\}$ such that the product of any two of them added with one is a perfect square. Also, we prove that this solution of triples can be extended to a sequence of quadruples with the same property.

Copyright © 2017 Pandichelvi V and Sivakamasundari P. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Let n be an integer. A set of positive integers $\{a_1, a_2, a_3, \ldots, a_n\}$ is said to have the property $D(r)$ if $a_i a_j + r$ is a perfect square for all $1 \le i < j \le n$, such a set is called a Diophantine m-tuple with a property $D(r)$ set of size m. The problem of construction of such sets was studied by Diophantus. He studied the following problem: Find four positive rational numbers such that the product of any two of them increased by 1 is a perfect square. He obtained the following solution $\left\{\frac{1}{2}, \frac{33}{4}, \frac{17}{4}, \frac{105}{16}\right\}$ (see [1]).

The first set of four positive integers with the above property was found by Fermat, and it was $\{1, 3, 8, 120\}$. Euler gave the solution $\{a, b, a+b+2r, 4r(a+r)(b+r)\}$, where $ab = 1 + r$ (see [2]). For an extensive review of various articles one may refer [3- 14]. In this communication we extend the Diophantine triple involving Pell numbers to a quadruple with the property $D(0)$.

Method of Analysis

Let $a = P_{n-1}, b = P_{n+1}$ where $P_n = \frac{(1+\sqrt{2})^n - (1-\sqrt{2})^n}{2\sqrt{2}}$ be any two integers such that $ab + 1 = z^2$ is a perfect square.

Let c be the non-zero integer such that

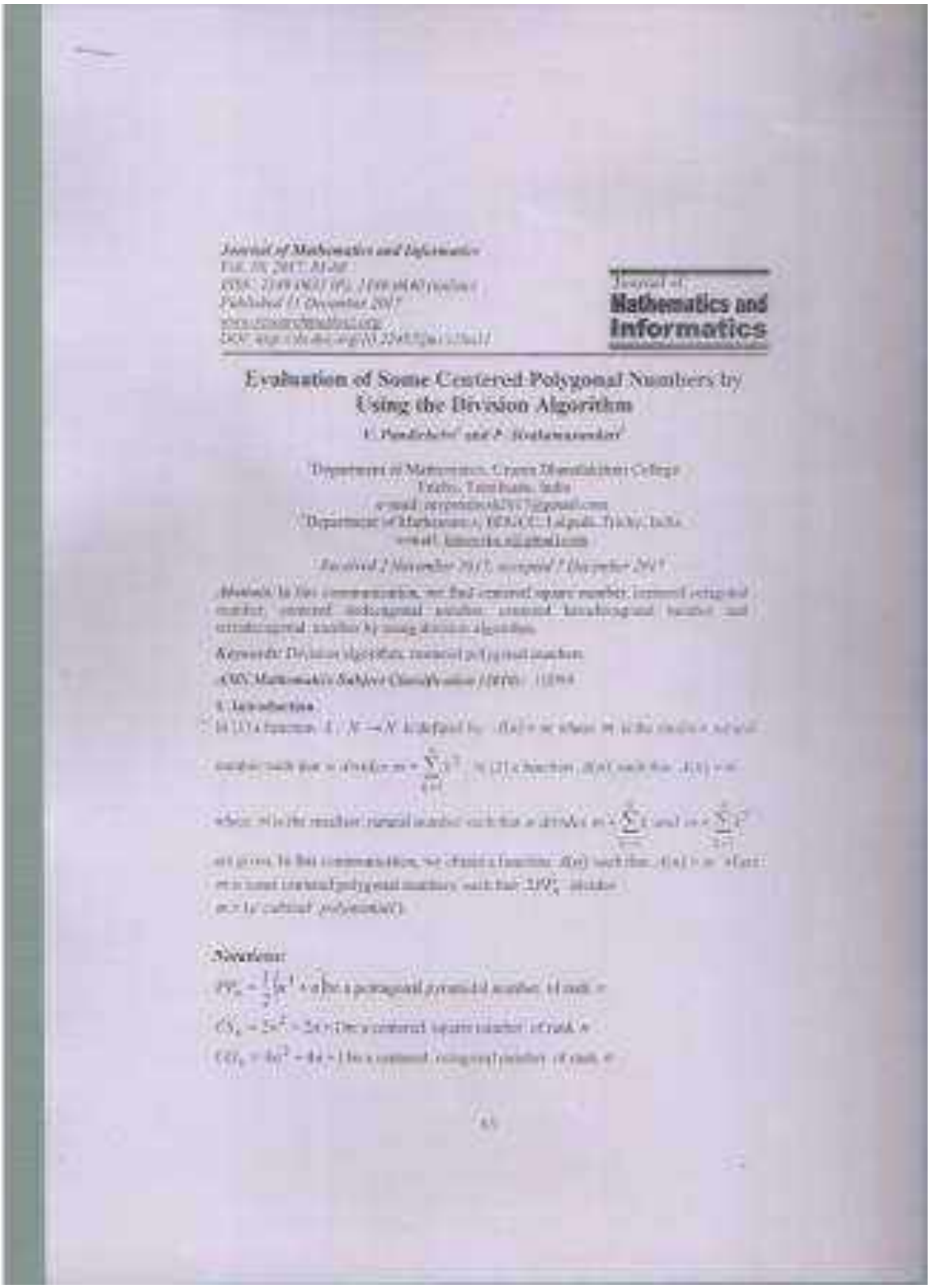
$$cP_{n-1} + 1 = s^2 \quad (1)$$

$$cP_{n+1} + 1 = t^2 \quad (2)$$

From (1), we get

*Corresponding author: Pandichelvi V
Department of Mathematics, Urumu Dhanalakshmi College,
Trichy

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Mathematics and Informatics
Vol. 10, 2017, 61-68
ISSN: 2349-0632 (P), 2349-0640 (online)
Published 11 December 2017
www.researchmathsci.org
DOI: http://dx.doi.org/10.22457/jmi.v10a11

Journal of
Mathematics and Informatics

Evaluation of Some Centered Polygonal Numbers by Using the Division Algorithm

V. Pandichelvi[1] and P. Sivakamasundari[2]

Department of Mathematics, Cauvery Womens(Autonomous) College
Trichy, Tamilnadu, India
e-mail: vpandichelvi2017@gmail.com
[2]Department of Mathematics, H.H.R.D.C., Lalgudi, Trichy, India
e-mail: kittysiva.s@gmail.com

Received 2 November 2017; accepted 7 December 2017

Abstract. In this communication, we find centered square number, centered octagonal number, centered nonagonal number, centered hexadecagonal number and centered octadecagonal number by using division algorithm.

Keywords: Division algorithm, centered polygonal number.

AMS Mathematics Subject Classification (2010): 11D04

1. Introduction

In [1] a function $f : N \to N$ is defined by $f(n) = m$ where m is the smallest natural number such that $n = d \cdot \text{rad}(n) \cdot m + \sum_{i=1}^{k} i^2$. In [2] a function $\beta(n)$ such that $\beta(1) = n$ where n is the smallest natural number such that $n \cdot \text{rad}(n) \cdot n + \sum_{i=1}^{k} i$ and $n + \sum_{i=1}^{k} i^2$ are given. In this communication, we obtain a function $\beta(n)$ such that $\beta(n) = n \cdot \text{rad}(n) \cdot m + n$ where m is least natural polygonal numbers such that $2|P_k^n$ divides $m + 1$ is called *polygonal*().

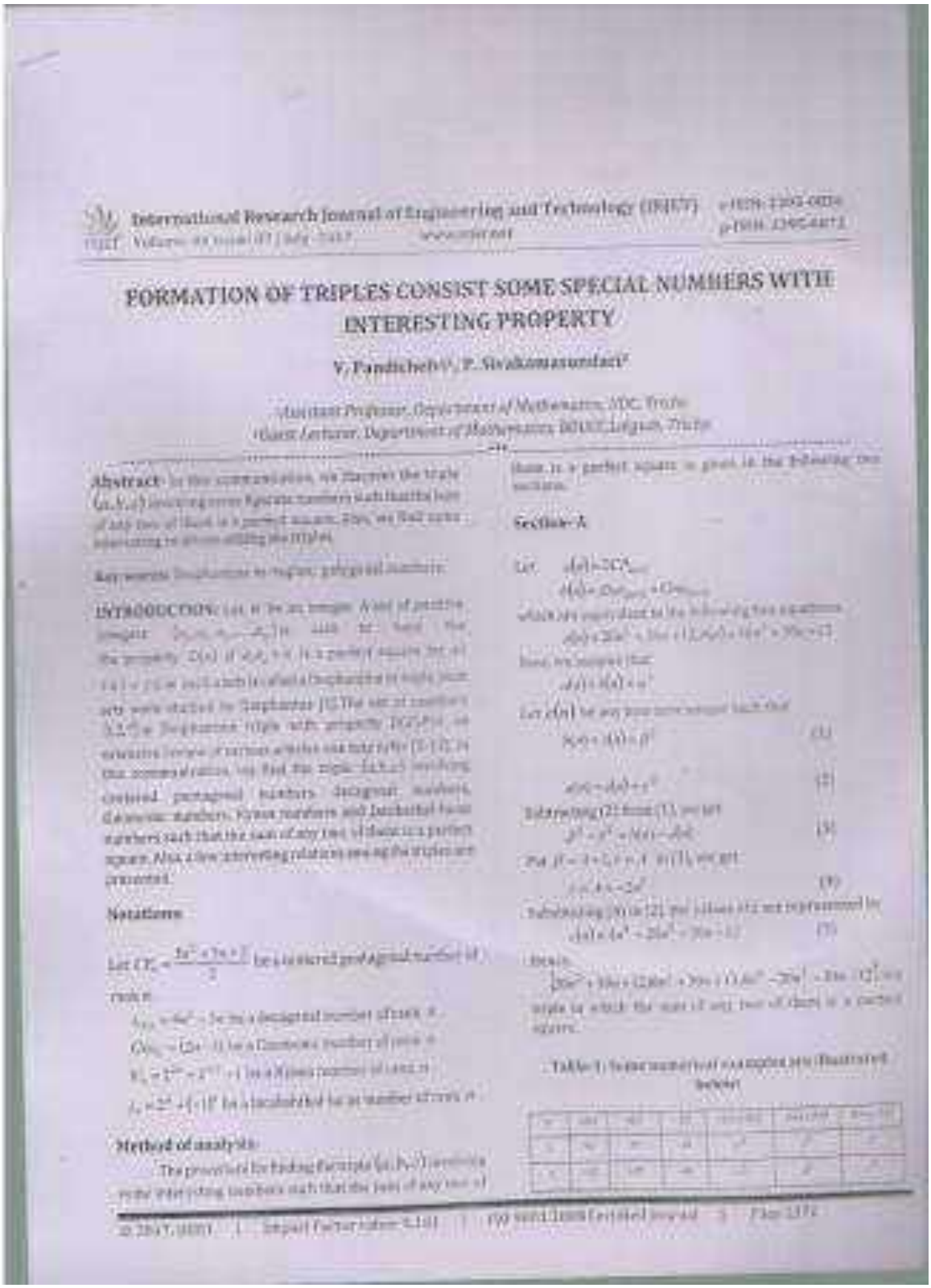
Notations:

$PP_n = \frac{1}{2}(n^3 + n)$ is a pentagonal pyramidal number of rank n

$CS_n = 2n^2 - 2n + 1$ is a centered square number of rank n

$CO_n = 4n^2 - 4n + 1$ is a centered octagonal number of rank n

3.3.2. Number of research papers per teacher in the Journals notified on UGC



International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 03 Issue: 07 | July -2016 www.irjet.net p-ISSN: 2395-0072

FORMATION OF TRIPLES CONSIST SOME SPECIAL NUMBERS WITH INTERESTING PROPERTY

V. Pandichelvi[1], P. Sivakamasundari[2]

[1]Assistant Professor, Department of Mathematics, NDC, Trichy
[2]Guest Lecturer, Department of Mathematics, BDUCE, Lalgudi, Trichy

Abstract- In this communication, we discover the triple (a,b,c) involving some figurate numbers such that the sum of any two of them is a perfect square. Also, we find some interesting relations among the triples.

Key words: Pentagonal no, Hexagonal, pentagonal numbers

INTRODUCTION: Let n be an integer. A set of positive integers $\{a_1, a_2, \ldots, a_n\}$ is said to have the property $D(n)$ if $a_i a_j + n$ is a perfect square for all $1 \le i < j \le n$. Such a set is called a Diophantine n-tuple with property $D(n)$. Diophantus was the first mathematician who studied the problem of finding sets with property $D(1)$. In his work, he found the rational set $\{\frac{1}{16}, \frac{33}{16}, \frac{17}{4}, \frac{105}{16}\}$ with property $D(256)$. Fermat found the set $\{1, 3, 8, 120\}$ with property $D(1)$. In this communication, we find the triple (a,b,c) involving centered pentagonal numbers, hexagonal numbers, decagonal numbers, Kynea numbers and Jacobsthal-Lucas numbers such that the sum of any two of them is a perfect square. Also, a few interesting relations among the triples are presented.

Notations

Let $CP_n = \frac{5n^2 - 5n + 2}{2}$ be a centered pentagonal number of rank n.

$h_n = 4n^2 - 2n$ be a hexagonal number of rank n.

$Dc_n = (2n-1)$ be a Decagonal number of rank n.

$K_n = 2^{2n} + 2^{n-1} + 1$ be a Kynea number of rank n.

$J_n = 2^n + (-1)^n$ be a Jacobsthal no. of number of rank n.

Method of analysis:

The problem for finding the triple (a,b,c) involving some interesting numbers such that the sum of any two of them is a perfect square is given in the following two sections.

Section-A

Let $a = CP_n$

$b = CP_{n+1} + CP_{n+2}$

which are supposed to be the following two equations

$b = 2n^3 + 3n^2 + 1 = (2n^2 + n - 1)(n+2) + 3n + 3$

Now, we suppose that

$a + b = k^2$

Let $c = cn$ be any non-zero integer such that

$b + c = l^2$ (1)

$a + c = m^2$ (2)

Subtracting (2) from (1), we get

$b - a = l^2 - m^2 = (l+m)(l-m)$ (3)

Put $l - m = 1 \Rightarrow l + m = b$ in (3), we get

$l = \frac{b+1}{2}$ (4)

Substituting (4) in (2), we obtain c as a polynomial in n of degree 6 given by

$c = \frac{1}{4}(b+1)^2 - a$ (5)

Thus, $(a, b, c) = (CP_n, CP_{n+1} + CP_{n+2}, \frac{1}{4}(b+1)^2 - a)$ is a triple in which the sum of any two of them is a perfect square.

Table-1: Some numerical examples are illustrated below

n	a	b	c	$a+b$	$a+c$	$b+c$
1	1	8	8	3^2	4^2	4^2
2	5	27	20	6^2	5^2	7^2
3	12	64	49	8^2	7^2	11^2

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Mathematical Archive-9(4), 2018, 15-18
Available online through www.ijma.info ISSN 2229 – 5046

RELATIONS AMONG M-GONAL NUMBERS THROUGH SECOND ORDER RAMANUJAN EQUATION $X^2 + Y^2 = Z^2 + W^2$

V. PANDICHELVI[1] AND P. SIVAKAMASUNDARI[2]

[1]Assistant Professor, Department of Mathematics, Urumu Dhanalakshmi college, Trichy, India.

[2]Guest Lecturer, Department of Mathematics, BDUCC, Lalgudi, Trichy, India.

(Received On: 09-02-18; Revised & Accepted On: 15-03-18)

ABSTRACT

In this paper, we evaluate the ranks of the Triangular number, Hexagonal number, Octagonal number and Dodecagonal number such that the relation $32T_{r,6} + 5T_{r,3} = 12T_{r,4} + 32T_{r,12}$ is satisfied. Also, we determine the ranks of the Triangular number, Hexagonal number, Dodecagonal number and Icosagonal number such that the relation $32T_{r,6} + 9T_{r,3} = 20T_{r,5} + 32T_{r,20}$ is satisfied by employing the standard solutions of the second order Ramanujan equation $X^2 + Y^2 = Z^2 + W^2$.

Keywords: Polygonal numbers, Ramanujan equation.

NOTATIONS USED:

$T_{r,3} = \frac{1}{2}(r^2 + r)$ be a triangular number of rank r.

$T_{r,6} = (2r^2 - r)$ be a hexagonal number of rank r.

$T_{r,8} = 3r^2 - 2r$ be a octagonal number of rank r.

$T_{r,12} = 5r^2 - 4r$ be a dodecagonal number of rank r.

$T_{r,20} = 9r^2 - 8r$ be a icosagonal number of rank r.

INTRODUCTION

We observe that $1^2 + 2^2 = 4^2 + 7^2$. Also, we observe that the following six-tuple quadruples $\{2n-1, 2n, -1, r^2 + r^2, r^2 + r^2\}$, $\{r^2 - r^2 - 1, r^2 - r^2 - 1, 2rr, r^2 + r^2\}$, $\{y+2, y, y, y+2, y, y\}$, $\{-1, r, -1, \pm 1\}$, $\{-1, r, \pm 1, -1\}$, $\{-y, y, \pm 1, -y\}$ satisfy the equation $XT + X + Y + 1 = Z^2 - W^2$. This equation motivates us to find the relation among M-gonal numbers through second order Ramanujan equation. In this communication, we find the relation between some polygonal numbers by using the standard solutions of second order Ramanujan equation $X^2 + Y^2 = Z^2 + W^2$.

METHOD OF ANALYSIS:

The paper consists of two sections. The detailed explanation of the connection between the Triangular Number, Hexagonal Number, Octagonal Number, Dodecagonal Number and Icosagonal Number is given in each of the following sections.

Corresponding Author: V. Pandichelvi[1]

3.3.2. Number of research papers per teacher in the Journals notified on UGC

HEAT TRANSFER AND CROSS-DIFFUSION DUE TO A SPHERE OF CONSTANT THERMAL ENERGY EMBEDDED IN A POROUS MEDIUM

by

Appavuraj MOHAN*[a]* and Renganathan GANAPATHY*[b]

[a] Department of Mathematics, Urumu Dhanalakshmi College, Trichirappalli, India
[b] Faculty of Sciences, MAM College of Engineering, Trichy, India

Original scientific paper
https://doi.org/10.2298/TSCI17S2503M

Heat transfer and cross-diffusion due to a sphere of constant thermal energy and concentration embedded in unbounded homogeneous porous medium in a regime where the temperature gradient produces mass flux is analytically studied using Darcy flow model. Analytical solution is obtained with regular perturbation analysis in the limit of small Rayleigh number. Due to cross-diffusion, solute front initially shows stronger convection than thermal front, but ultimately reaches steady-state at approximately the same time as that of thermal front. Quantity of heat necessary to maintain the steady-state is found to be least near the rear stagnation point and the mean Nusselt number is found to be unaffected by cross-diffusion. Nusselt number variation for different cone angles and Soret number is studied and it is found that higher improvement is achieved when cone angle is changed from 80 to 100°

Key words: *thermal energy, thermo-diffusion, Darcy flow, porous medium, sphere*

Introduction

Heat transfer due to the presence of heat sources in saturated porous media has been the subject of study in recent years in view of its wide ranging applications to a variety of fields such as in the storage of thermal energy, and in the management of nuclear waste to mention but a few. However, in most practical situations, species concentration gradients greatly affect the flow and as a result, they play a decisive role in the development of thermal fields, such as migration of moisture in fibrous insulations, spreading of pollutants in water saturated soil and in underground disposal of nuclear waste. When the temperature gradient is steep, cross-coupling between thermal and solutal diffusions are no longer negligible and presumably for this reason, Soret effect is being widely considered for isotope separation and in mixture of gases of light and medium molecular weights [1]. In fact, the importance of thermo-diffusion, though considered as a second-order phenomenon, is becoming more widely accepted in a variety of fields that includes mineral enrichment of geothermal sources, hydrocarbon separation in petrology and magma differentiation in geosciences, besides others [2].

Analytical studies on double-diffusive convection in a horizontal fluid-saturated porous layer, heated and salted from below in the presence of Soret and Dufour effects, using linear and non-linear stability analyses is done by Malashetty and Biradar [3]. In natural con-

* Corresponding author, e-mail: appavumohan@gmail.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Alexandria University

Alexandria Engineering Journal

ORIGINAL ARTICLE

Free convective Darcy flow induced by a temperature gradient in a hemispherical porous medium

R. Ganapathy [a,*], A. Mohan [b]

[a] Faculty of Sciences (Research), MAM College of Engineering, Anna University, Tiruchirappalli 621105, India
[b] Faculty of Mathematics, Urumu Dhanalakshmi College, Bharathi Dasan University, Tiruchirappalli 620019, India

Received 1 December 2016; revised 26 April 2017; accepted 7 May 2017

KEYWORDS

Free convection;
Darcy flow;
Hemisphere;
Gegenbauer polynomial;
Rayleigh number

Abstract Assuming the validity of the Darcy model, the steady-state development of the flow and heat transfer induced by a temperature gradient in a hemispherical porous medium with a free surface is investigated using a semi-analytical method. The streamlines are in the form of eddies with expanding vortices on either side of the axis of symmetry with the intensity of the flow field increasing with an increase in the Rayleigh number. The rate of momentum transfer is relatively higher than in a non-Darcy regime. The axial velocity is monotonic and is found to increase with an increase in the Rayleigh number. The behavior of the fluid motion on the free surface is similar to that of the axial flow. The thermal field exhibits two distinctive regions, one with a lower temperature gradient and the other with a higher but constant temperature gradient. Around the deepest end of the hemisphere, the local heat transfer rate remains unaffected by heat convection and a singularity in the graph of the Nusselt number is noticed for which a theoretical justification is given.

© 2017 Faculty of Engineering, Alexandria University. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

Among the thermal engineering applications which benefit from a better understanding of the fundamentals of heat and fluid flow in a porous medium are those concerning the free convection flows induced by a temperature gradient in finite regions such as those bounded by two horizontal concentric or eccentric cylinders (see for instance, Charrier-Mojtabi and Mojtabi [1]) or between two spheres (see for instance, Burns and Tien [2], Pop et al. [3], Baytas et al. [4]) since they form an essential mode of heat transfer in numerous applications such as in oil and gas lines and cryogenics, to name just a few. Furthermore, in recent times, such thermally induced flows in confined geometries having a free surface attract greater attention of researchers and are germane to a variety of industrial applications, in particular, to food engineering especially in the analysis of food processes involving significant heating. For instance, Ni et al. [5] used a porous medium model to investigate heat and moisture transport in intensive microwave heating of biomaterials and validated their model

* Corresponding author.
E-mail addresses: [illegible] (R. Ganapathy), [illegible] (A. Mohan).

Peer review under responsibility of Faculty of Engineering, Alexandria University.

http://dx.doi.org/10.1016/j.aej.2017.05.013
1110-0168 © 2017 Faculty of Engineering, Alexandria University. Production and hosting by Elsevier B.V.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Please cite this article in press as: R. Ganapathy, A. Mohan, Free convective Darcy flow induced by a temperature gradient in a hemispherical porous medium, Alex. Engg. J. (2017) [illegible]

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Ain Shams University

Ain Shams Engineering Journal

ENGINEERING PHYSICS AND MATHEMATICS

Unsteady Stokes flow induced by a point source of electric current in a non-Darcy hemispherical porous medium

R. Ganapathy [a,*], A. Mohan [b,1]

[a] Faculty of Sciences (Research), MAM College of Engineering, Anna University, Tiruchirapalli 621 105, India
[b] Department of Mathematics, Urumu Dhanalakshmi College, Bharathi Dasan University, Tiruchirapalli 620 019, India

Received 14 October 2015; revised 18 February 2016; accepted 16 March 2016

KEYWORDS

Stokes flow;
Hemisphere;
Brinkman model;
Point source;
Electric current;
Darcy number

Abstract The time development of the magneto-hydrodynamic Stokes flow in a hemispherical porous medium induced by the symmetric discharge of an electric current from a point source at the center of the planar end of the hemisphere is investigated. Assuming the validity of the Brinkman model, a semi-analytical method is proposed for the determination of the flow field. The streamlines drawn in an axial cross-section are found to be in the form of expanding vortices, one on either side of the axis of symmetry. Irrespective of the changes in the evolution of the flow field with time, the polar axis on which the stagnation points of the fluid motion lie from time to time remains stationary without any deviation from the initial position. A comparison of the porous and non-porous media solutions shows that in respect of pure fluids, the steady-state is established much earlier than that in a porous medium. The present analysis plays a significant role in the understanding of the welding processes.
© 2016 Faculty of Engineering, Ain Shams University. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

The study of the flow of an electrically conducting fluid through a porous medium in the presence of a magnetic field spans a range of scientific and engineering domains including earth sciences, nuclear engineering, medical sciences and metallurgy, to mention but a few. For example, the rock that constitutes the earth's crust is essentially a porous medium that deforms over geological timescales and the flow through and erosion of this medium by magma leads to such phenomena on layered magma chambers and volcanic eruptions. In nuclear engineering, knowledge of the magneto-hydrodynamic flow in a porous medium is required for the design of a blanket of liquid metal around a thermonuclear fusion-fission hybrid reactor [1]. Magneto-hydrodynamic flows have extensive applications in bio-engineering and medical sciences too. Specifically, cancer tumor treatment causing magnetic hyperthermia, bleeding reduction during surgeries and targeted transport of drugs using magnetic particles as

* Corresponding author. Tel.: +91 0431 2481584 (Office), mobile: +91 97894 99494.
E-mail addresses: [illegible] (R. Ganapathy), [illegible] (A. Mohan).
[1] Mobile: +91 99946 18086.
Peer review under responsibility of Ain Shams University.

Production and hosting by Elsevier

http://dx.doi.org/10.1016/j.asej.2016.03.017
2090-4479 © 2016 Faculty of Engineering, Ain Shams University. Production and hosting by Elsevier B.V.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Please cite this article in press as: Ganapathy R, Mohan A. Unsteady Stokes flow induced by a point source of electric current in a non-Darcy hemispherical porous medium. Ain Shams Eng J (2016), http://dx.doi.org/10.1016/j.asej.2016.03.017

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Ain Shams University

Ain Shams Engineering Journal

www.elsevier.com/locate/asej

ENGINEERING PHYSICS AND MATHEMATICS

Thermo-diffusive Darcy flow induced by a concentrated source

R. Ganapathy [a,*], A. Mohan [b,1]

[a] Faculty of Sciences (Research), MAM College of Engineering, Anna University, Tiruchirappalli 621 105, India
[b] Faculty of Sciences, Saranathan College of Engineering, Anna University, Tiruchirappalli 620 012, India

Received 27 March 2015; revised 24 June 2015; accepted 19 July 2015
Available online 1 October 2015

KEYWORDS
Thermo-diffusion;
Darcy flow;
Porous medium;
Concentrated source

Abstract An analytic study is made of Soret-induced double diffusive Darcy flow produced in an unbounded homogeneous porous medium of uniform porosity and low permeability when a concentrated source embedded instantaneously in the medium starts liberating heat and at the same time a chemical substance too at a constant rate in a regime where the temperature gradient produces mass flux as well. A perturbation analysis in the limit of small Rayleigh number is employed to obtain analytical solution for the determination of the transient and steady-state development of the flow field and heat and mass transfer. Due to double diffusion, a bifurcation of the flow field is noticed when the buoyancy mechanisms are opposed and due to the Soret-induced cross-diffusion, the region in which the thermal effect of the source is felt, gets minimized with a simultaneous reduction in the rate of momentum and heat transfer.
© 2015 Ain Shams University. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

In view of the wide ranging applications to a variety of fields such as the fluid dynamics of weak thermal explosions and cooling of the components of electrical and electronic equipments, several researchers have investigated the phenomenon of the buoyancy-driven thermal convection due to the presence of point sources embedded in saturated porous media and have obtained several results for the flow and temperature fields assuming the validity of the Darcy and extended Brinkman models in both infinite and semi-infinite media. One of the earliest works being that of Wooding [1], who studied the free convection in a saturated porous medium at large Rayleigh number or Peclet number by developing a boundary-layer theory for the analysis of vertical plane flows in regions where the gradients of fluid properties are very large. Bejan [2] investigated in the low Rayleigh number regime, the natural convection flow and heat transfer around a concentrated point source embedded in an unbounded porous medium using a regular perturbation. Using similarity transformations, Hickox and Watts [3] obtained a numerical solution for the steady, axi-symmetric velocity and temperature fields associated with a point source of thermal energy while, Hickox [4] investigated an identical problem with a special emphasis on its applications

* Corresponding author. Mobile: +91 97894 98494.
E-mail addresses: [illegible] (R. Ganapathy), [illegible] (A. Mohan).
[1] Mobile: +91 95660 18066.
Peer review under responsibility of Ain Shams University.

Production and hosting by Elsevier

2090-4479 © 2015 Ain Shams University. Production and hosting by Elsevier B.V.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Ain Shams University

Ain Shams Engineering Journal

ENGINEERING PHYSICS AND MATHEMATICS

Double diffusive Darcy flow induced by a spherical source

R. Ganapathy [a,*], A. Mohan [b,1]

[a] Faculty of Sciences, MAM College of Engineering, Anna University, Tiruchirappalli 621105, India
[b] Faculty of Sciences, Saveetha School of Engineering, Anna University, Tiruchirappalli, 630112, India

Received 14 May 2014; revised 6 November 2014; accepted 26 November 2014
Available online 9 February 2015

KEYWORDS
Spherical source;
Porous medium;
Darcy flow;
Double diffusion;
Rayleigh number

Abstract A simple mathematical theory is proposed for the study of the free convective mass transfer flow induced by a spherical source in an unbounded porous medium assuming the validity of the Darcy flow model. Besides generating heat, the source penetrates a chemical substance heat at a constant rate. Assuming the heat generation rate not excessive, an exact analytical solution is obtained for the flow field using the method of superposition for the determination of the temperature and concentration fields. The significant of the impact of the species concentration gradients upon the thermally driven flow has been highlighted. The results are delineated by comparing them with those of a point source and the evolution of the flow field is contrasted with that due to the presence of a heated sphere. Solutions for sources with spherical geometry could be deduced algebraically from the results of this study.
© 2014 Faculty of Engineering, Ain Shams University. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

Among the thermal engineering applications which benefit from a better understanding of the fundamentals of heat and fluid flow in a porous medium are thermal insulations, geothermal systems, cooling of nuclear reactors and underground disposal of nuclear waste. In particular, those concerning subsea-

* Corresponding author. Mobile: +91 97504 00494.
E-mail addresses: ganapathy.r@rediffmail.com (R. Ganapathy), mohan.a@saveetha.com (A. Mohan).
[1] Tel.: +91 9944418086.
Peer review under responsibility of Ain Shams University.

Production and hosting by Elsevier

bed disposal of nuclear waste attract greater attention in view of their growing relevance to the successful containment of the transport of radio nuclide into the water columns and several results are available in the literature modeling the situation with heat sources buried in unbounded porous media. In most of the existing published studies [1–3], the source is assumed to be concentrated at one point although in practice, the nuclear waste is first encapsulated in a suitably designed container before being implanted into the sedimentary layer below the subsea bed [4,5]. Hence, to have a better understanding of the complexity of the situation, a different modeling, other than that of a concentrated point source, may be needed in order to have a comprehensive estimate of the overall convection effects, the most appropriate one with spherical geometry being that of a spherical source, which indeed is the focus of our investigation in the present study. Motivated by the significance of understanding such free convection flows, Hardee [6]

2090-4479 © 2014 Faculty of Engineering, Ain Shams University. Production and hosting by Elsevier B.V.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Far East Journal of Applied Mathematics
Volume 72, Number 1, 2012, Pages 61-72
Published Online November 2012
Available online at http://pphmj.com/journals/fjam.htm
Published by Pushpa Publishing House, Allahabad, INDIA

NONLINEAR CONVECTION IN A POROUS MEDIUM DUE TO THE PRESENCE OF A POINT HEAT SOURCE

R. Ganapathy and A. Mohan

Saranathan College of Engineering
Anna University of Technology
Tiruchirapalli 620 012, India
e-mail: sowgar05@yahoo.com; appavumohan@gmail.com

Abstract

Invoking a nonlinear density-temperature relation [NDT] and assuming the Darcy flow model, a simple mathematical theory is proposed for the analysis of the transient buoyancy driven thermal convection around a point heat source of thermal energy embedded in an unbounded porous medium of low permeability. Making use of a regular perturbation analysis, analytical solutions for both the flow and temperature fields have been obtained in the form of series expansions in terms of a thermal Rayleigh number which is based on the strength of the source and the medium permeability. The results are exemplified by drawing the streamlines at two different times and are delineated by comparing them with that of the linear Boussinesq model. The significance of the NDT variations has been highlighted and the solution for the free convection flow of water at 4°C has been deduced.

1. Introduction

In view of the wide ranging applications to a variety of fields such as

© 2012 Pushpa Publishing House

2010 Mathematics Subject Classification: 76S05, 76R10.

Keywords and phrases: porous medium, free convection, point heat source, nonlinear Boussinesq model.

Received October 4, 2012

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Applied Mathematical Sciences, Vol. 6, 2012, no. 20, 957 - 968

Cartesian Product of Bi Polar Q- Fuzzy Lattice

[1]S. Subramanian, [2]R. Nagarajan and [3]A. Mohan

1 Department of Mathematics
Saranathan College of Engineering & Technology
Trichirappalli-12 India
mathsspmanian@gmail.com

2. Department of Mathematics
J J College of Engineering & Technology
Trichirappalli-[illegible]. India
nagalogesh@yahoo.co.in

3 Department of Mathematics
Saranathan College of Engineering & Technology
Trichirappalli-12. India
appavumohan@gmail.com

Abstract. In this paper we introduced the notion of interval-valued bipolar Q-fuzzy lattices briefly IVBQFL in terms of fuzzy d-ideals based on bipolar valued fuzzy set and several related properties are also established Relations between a interval-valued bipolar Q-fuzzy lattices and bipolar fuzzy d-ideals are also discussed The concept of Cartesian product fuzzy fully invariant and characteristic of interval-valued bipolar Q-fuzzy lattices are investigated The homomorphic image of bipolar Q-fuzzy lattice is also given Furthermore, we state family of interval-valued bipolar Q-fuzzy lattices.

Mathematics Subject Classification: 06F35, 03G25, 08A72, 03E72

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Mathematical Forum, Vol. 7, 2012, no. 6, 281 - 295

Homomorphic Image of Fuzzy Soft Rings with Supremum Property under Triangular Norms

[1]S. Subramanian, [2]R. Nagarajan and [1]A. Mohan

1 Department of Mathematics
Saranathan College of Engineering & Technology
Trichirappalli-12, India
mathsspmanian@gmail com

2 Department of Mathematics
J J College of Engineering & Technology
Trichirappalli-09, India
nagalogesh@yahoo co in

3 Department of Mathematics
Saranathan College of Engineering & Technology
Trichirappalli-12, India
appavumohan@gmail com

Abstract. Molodtsov [1999] initated the concept of soft set theory as a new approach for modeling uncertainties. Then Maji et al [2001] expanded this theory to fuzzy soft set theory. The algebraic structures of soft set theory have been studied increasingly in recent years. Aktas and Cagman [2007] defined the notion of Soft groups. Feng et al [2008] initiated the study of soft semi rings and finally soft rings are defined by Acar et al [2010]. In this study we introduce Homomorphic image of fuzzy soft ring which is a generalization of soft rings introduced by Acar et.al and we study some of their properties.

Keywords: Soft ring, Fuzzy Soft ring, imaginable, pre - image, soft homomorphism, fuzzy Soft homorphism

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Department of Microbiology

Original Research Paper

Economics

HPLC ANALYSIS OF SECONDARY METABOLITES IN *Coleroptyrigiaceae* DURING BIOMETHANATION.

Dr. N. Sengottaian — M.Sc., B.Ed., M.Phil.,Ph.D, Associate Professor in Botany, Unamal Rumaisakheri College, Tiruchirappalli, Tamil Nadu, India.

A. Anjana — M.Sc., MphIl., B.Ed. Assistant Professor in Microbiology, Unamal Rumaisakheri College, Tiruchirappalli, Tamil Nadu, India.

ABSTRACT

KEYWORDS:

INTRODUCTION

Materials and methods :

Collection and preservation of biomass

Qualitative and quantitative determination of secondary metabolites :

RESULT AND DISCUSSION :

Table 1. Difference in the quantity of biogas generated in the Co-digested Biomass

S.No	Days	Gas in Biogas unit
1		
2		
3		
4		
5		
6		
7		
8		

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Interdisciplinary Cycle Research ISSN NO: 0022-1945

In-vitro studies on Anticancer activity of the marine endophytic fungi isolated from south east coast of India.

A. Anjana and G. Thiruneelakandan
Department of Microbiology, Marudupandiyar College, Vallam, Thanjavur, Tamilnadu, India.

Abstract
The constituting unspecify number of investigations on fungal metabolites and their derivatives haven't led to a clinical anti neoplastic in-spite of great research efforts revealing an outsized number of fungi-derived natural products with promising anticancer activity. Wide natural products have growth-inhibitory properties of active molecules in human somatic cell lines and choose compounds are demonstrated to provide therapeutic benefits in mouse models of human cancer cells. Many of these compounds are expected to enter human clinical trials within the near future. In this present investigation, the potential competition in imitation of a measure over ethnic most cancers cell line viz. lung (A-549 & HOP-62), ovary (IGR-OV-1) breast (MCF-7) stoop (PC-3 & DU-135) neuroblastoma (IMR-32) then colon (colo-205 & HCT-15). amongst these, auspicious three (*Penicillium chrysogenum, P.turbatum & Trichoderma harzianum*) isolates have been decided in accordance with occurrence biomolecules along anti-cancerous interest. Is that this present study highlights the endophytic fungi from marine mangrove litter fall they have more anticancer potential properties.

Key words: Endophytic fungi, neuroblastoma, A-549 & HOP-62, MCF-7, HCT-15.

Introduction

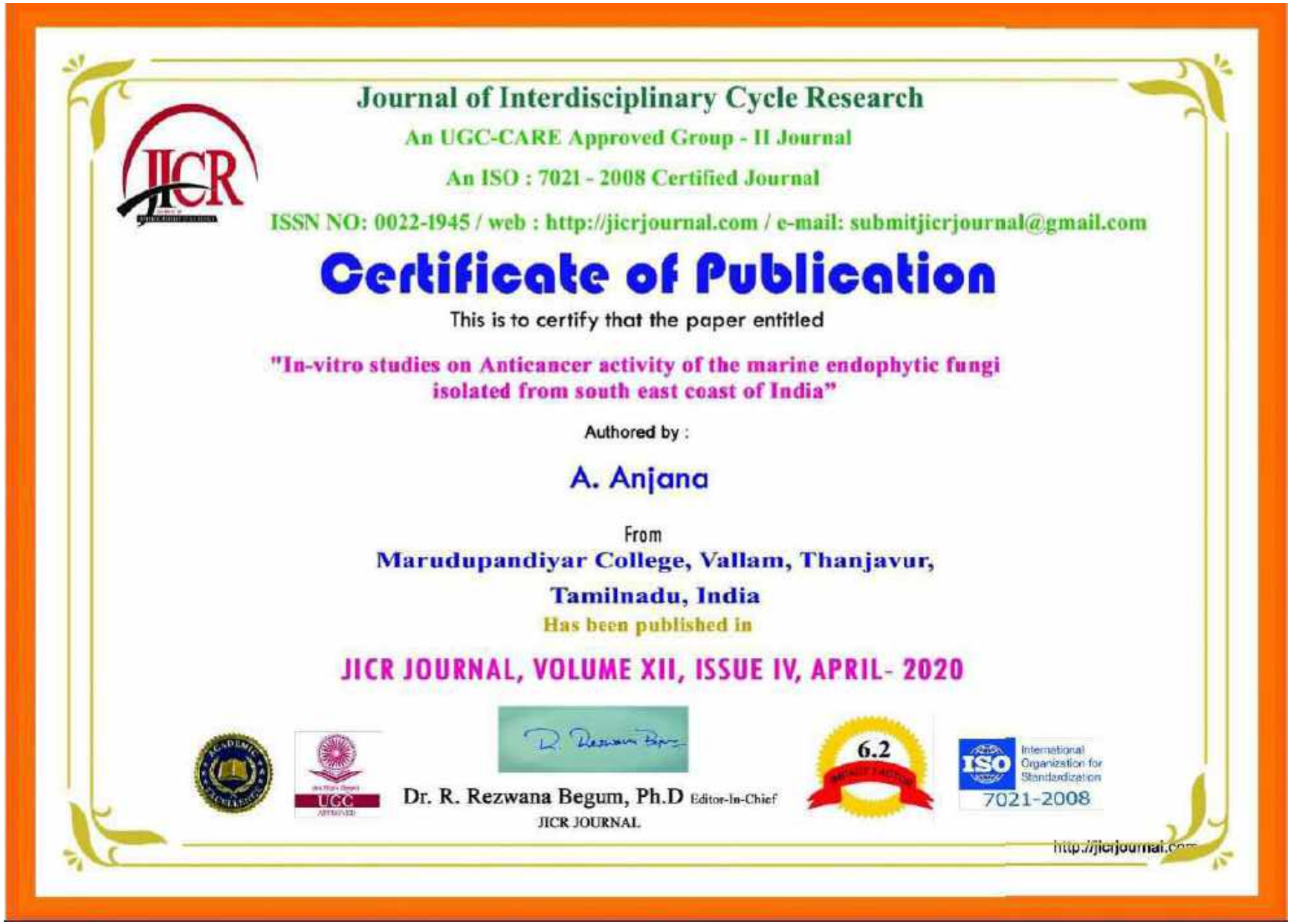
Many biological compounds with variable levels of action, together with anti-tumor, anti-most cancers, antiproliferative, cytotoxic additionally as antibiotic properties were remoted from marine sources. The marine surroundings is AN undiscovered supply for isolation of latest microbes (bacteria, fungi, actinomycetes, eubacteria and diatoms) that area unit potent producers of bioactive secondary metabolites (Pimentel *et al*., 2011).

Endophytes area unit microorganisms that reside asymptomatically within the tissues of higher plants and area unit a promising offer of novel organic seasoner metabolites exhibiting an entire heap of biological activities (Strobel,2003) The term "endophytes" includes a group of microorganisms that grow intra and/or animate thing at intervals the tissues of higher plants while not inflicting any adverse results to the vegetation within which they live, and have valid to be flush sources of bioactive natural merchandise (Pimentel *et al*., 2011).

The necessary stress of this summary is on bioactive compound generating marine fungi and their organic active compounds. some 3,00,000 plant species growing in undiscovered space on this planet area unit host to one or bigger endophytes (Strobel, 2003), and therefore the presence of bio varied endophytes in giant vary performs AN crucial role on ecosystems with best multifariousness, for example, the tropical and temperate rainforests (Strobel and Daisy, 2003), which could be extensively discovered in Brazil and possess nearly two hundredth of its biotechnological source(Dos Banhos *et al*., 2014). In recent years, marine fungi were explored a lot of intensely to achieve novel and biologically energetic compounds, once as compared with totally different marine forms.

The position of endophytes within the assembly of bioactive compounds, the importance of along with endophytic fungi within the screening approach for novel medicine, and therefore the microorganism biotransformation manner as a singular various technique to realize such compounds. It to boot describes these compounds

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Interdisciplinary Cycle Research

An UGC-CARE Approved Group - II Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0022-1945 / web : http://jicrjournal.com / e-mail: submitjicrjournal@gmail.com

Certificate of Publication

This is to certify that the paper entitled

"In-vitro studies on Anticancer activity of the marine endophytic fungi isolated from south east coast of India"

Authored by :

A. Anjana

From

Marudupandiyar College, Vallam, Thanjavur,

Tamilnadu, India

Has been published in

JICR JOURNAL, VOLUME XII, ISSUE IV, APRIL- 2020

Dr. R. Rezwana Begum, Ph.D Editor-In-Chief

JICR JOURNAL

6.2

ISO International Organization for Standardization 7021-2008

http://jicrjournal.com

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ıe International journal of analytical and experimental modal analysis

STUDIES ON BIOACTIVE PROPERTIES OF MARINE FUNGI FROM MUTHUKUDA MANGROVE FOREST SOUTH EAST COAST OF INDIA.

A. Anjana and G. Thiruneelakandan

Department of Microbiology, Marudupandiyar College, Vallam, Thanjavur, Tamilnadu, India.

ABSTRACT

This study aimed to explore the antimicrobial and antioxidant potential fungi which were isolated from marine mangrove sediments. The 51 Marine fungi species was isolated from the south east coast of India, were evaluated. Extracted secondary metabolites of marine fungal starins, were screened for their antimicrobial activity and the marine fungal secondary metabolites was used for, in order to assess its effect on the antioxidant activity. Three fungal species showed more antimicrobial activity and antioxidant potential proved to be more active. The portion of used had an influence on the results obtained and exhibiting the greatest antioxidant effect.

Key words: Antimicrobial, antioxidant, Marine fungi, *Penicillium chrysogenum, P.turbatum & Trichoderma harzianum.*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Original Research Paper

Volume-8 | Issue-5 | May-2018 | PRINT ISSN No 2249-555X

Economics

HPLC ANALYSIS OF SECONDARY METABOLITES IN *Calotropisgigantea*DURING BIOMETHANATION.

Dr. N. Sengottaian M.Sc.,B.Ed., M.Phil.,Ph.D. Associate Professor in Botany,UrumuDhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

A. Anjana M.Sc., Mphil., B.Ed. Assistant Professor in Micrrobiology, UrumuDhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

ABSTRACT The study is focused to assess the production of biogas and change in phytochemical and evaluation of toxicity reduction. Biogas was produced from cow dung mixed with Calotropis. The contents of secondary metabolites were measured by HPLC and there by toxicity reduction was evaluated. Among the three secondary metabolites during methanogenesis different degrees of degradation have been observed (Flavanoid -92%, Terpenoid – 80%, Alkaloid -55%). It is concluded that the degradation potential depends upon the structural integrity of the secondary metabolites.

KEYWORDS : *Calotropisgigantea* , Biogas, HPLC,

INTRODUCTION

Energy is one of the major building blocks of modern society. Energy pervades all sectors of society: economic, labor, environment, international relations *etc*, in addition to our own personal livings i.e., housing, food, transportations recreation and more. Energy is simply the capacity for doing work (EIA, 2006). Organic carbon based materials of plants and animals are called biomass. This biomass may be transformed by physical, chemical and biological processes to **'biofuel'.**

Biogas technology refers to the production of a combustible gas (called biogas) and a value added fertilizer (called slurry or sludge) by the anaerobic fermentation of organic materials under certain controlled conditions of temperature, pH, C/N ratio, etc. Methane is a main constituent (63%) of biogas. The biogas slurry, rich in nutrients but low in carbon content, can be used as a natural biofertilizer, preferable to other inorganic fertilizers (Chakraborty*et al*., 2002).

The latex bearing plants *viz*, *Plumeriaalba*, *Calotropisprocera*, *Euphorbianeriifolia*, *Mimusopselengi* and*Neriumindicum* were evaluated as potential renewable sources of energy and chemicals (Kalita and Saikia, 2004). The plant parts (leaf, stem, bark) consist of oil, polyphenols, hydrocarbons, crude protein, α-cellulose, lignin and ash. For the successful utilization of any biomass as a source of biogas, its methanogenic potential alone is not sufficient. The residue left after the process must be properly managed for its sustainability. In order to implement this, the characteristic features of the residue, especially assessment of the toxicity is inevitable.

Hence, the present study is focused to assess the production potential of biogas (methane) and changes in some phytochemicals and evaluate the reduction of toxicity, of secondary metabolites of the plant *viz*.,terpenoid (γ-terpinene), flavonoid (catechin), steroid (β-stigmasterol) and alkaloid (histamine) quantification were estimated before and after biomethanation.

Materials and methods :

Collection and preparation of biomass

*Calotropis*twigs were collected from the campus playgrounds of Urumu Dhanalakshmi College, Tiruchirappalli, and authenticated. The leaf material was dried and ground to fine powder to be used as a substrate. Fresh cow dung was used as seeding material with*Calotropis*. Cow dung and water in the ratio 1:2 (w/v) served as a control substrate (Kasali, 1990 and Chakraborthy*et al*., 1996). The pH of the above two substrates were adjusted to 6.8.

The control and the experimental substrates were subjected to fermentation in separate batch fermentors assembled in the laboratory. The raise in the level of substrate and appearance of effervescence confirm the initiation of methanogenesis. The emitted biogas was collected by the downward displacement of water. Some phytochemical components of cow dung and *calotropis*biomas before and after biomethanation were assessed by standard procedures.

Qualitative and quantitative determinations ofsecondary metabolites :

The residue obtained after methanogenesis, was allowed to air dry in the sheltered area at 25-30˚C until moisture was exhausted. The sample was ground, and it was stored in a plastic bag for subsequent analysis. The*Calotropis* leaf powder and the biogas residue were subjected for qualitative identification of the following secondary metabolites with appropriate standards. (Flavonoid –Catechin, Terpenoid- γ-Terpinene, Alkaloid -HistamineSteroid -β-Stigmasterol]

The contents of secondary metabolites were qualitatively measured by high pressure liquid chromatography (HPLC).

RESULT AND DISCUSSION :

The quality of methane accumulated, from *Calotropis* biomass and the control [cowdung] through downward displacement system, were recorded at every 6 hourly intervals for 15 days.

Under the present experimental conditions, after inoculation, methanogenesis began on the first day itself. The quantity of biogas generated was significantly higher in the plant biomass throughout the experimental period .The higher potential of plant biomass to generate methane has been reported as early as 1996 by Mittal. The biomass of different plants *viz*., *Spirogyra* (Algae), *Ipomea*, *Eichhornea*; *Jatropa*and*Parthenium* were most effective in biomethanation (Chakraborty, 2002).

The difference in the quantity of biogas generated by cow dung and biomass throughout the experiential period (15 days) are presented in **Table** .1. The flux in the biogas, expresses a steep increase on the second day, maintains at the highest on the 3rd and 4th day gradually declines thereafter till the end, with significant statistical difference.

The raw material for biogas production evidently is higher in plant biomass since it is not subjected to any microbial degradation earlier. Cow dung is a product of microbial degradation in the ruminated digestive tract of the animal which harbors enormous microbial population *viz*,*Lactobacillus*, *Bifidobacterium*, *Propionobacterium*, *Clostridium* and *Coriobacterium*(Collado and Sanz, 2007). They maybe the cause for the synthesis of more biogas by the plant biomass.

Table 1. Difference in the quantity of biogas generated by the Cow dungand Biomass

S.No.	Day	Flux in Biogas (ml)
1.	1st	22
2.	2nd	71
3.	3rd	74
4.	4th	74
5.	5th	69
6.	6th	67
7.	7th	65
8.	8th	65

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Int J Infect. 2015 January; 2(1): e22664.

Published online 2015 January 18. **Research Article**

Prevalence of Extended-Spectrum Beta-Lactamase-Producing Pathogens From Urinary Tract Infected Samples and Their Sensitivity Pattern Against *Withania somnifera* L

Abdul Kapur M. [1,*]; S. Ahmed John [2]

[1] Research Scholar in Microbiology, Bharathiar University, Coimbatore, Tamilnadu, India
[2] Department of Botany, Jamal Mohamed College, Tiruchirapalli, Tamilnadu, India

*Corresponding author: Abdul M. Kapur, Research Scholar in Microbiology, Bharathiar University, Coimbatore, Tamilnadu, India. Tel: +91-9994340197, E-mail: kaforemicro@gmail.com

Received: August 9, 2014; **Revised:** August 19, 2014; **Accepted:** August 19, 2014

Background: Urinary tract infections (UTI) caused by resistant bacteria are becoming more prevalent. The spread of extended-spectrum beta-lactamase (ESBL)-producing bacteria worldwide has become a serious public health issue among healthcare centers and in the community. Drugs and many secondary metabolites from medicinal plants have proved to be economical and effective against many pathogens.

Objectives: The present study was designed to detectext ended-spectrum beta-lactamase (ESBL) producers and their sensitivity pattern against Extracts of *Withania somnifera*.

Patients and Methods: Infected urine clinical samples were collected aseptically and processed immediately for the isolation of pathogens. Isolated pathogens were identified based on physiological characters and their ESBL pattern was determined by the stroke method. The sensitivity of ESBL strains against *Withania somnifera* was evaluated by the disc diffusion method.

Results: Totally 26 isolates were isolated and 65.3% showed resistance to cefixime, chloramphenicol, clotrimazol, amoxicillin, ampicillin, amikacin and penicillin antibiotics. Of the 32 sample, 61% of the isolates were found to be ESBL producers and highest incidence was found in the age group of 30-45 years. Extended-spectrum beta-lactamase producers belonging to the following species, *E. coli*, *Proteus sp* and *Pseudomonas aeruginosa*, were also multidrug resistant. All three tested ESBL pathogens were highly sensitive to the root extracts of *W. somnifera* and moderately sensitive to leaf extracts. The maximum zone of inhibition of root extracts was 19 ± 0.2 mm against ESBL *E. coli* followed by 18 ± 0.2 mm against ESBL *Pseudomonas aeruginosa* and *proteus sp*.

Conclusions: The present study reveals the potential role of *W. somnifera* against UTI pathogens and it confirms the antibacterial activity of this species against drug resistant clinical pathogens.

Keywords: *Withania somnifera*; Urinary Tract; Prevalence; Infection

1. Background

Urinary Tract infection (UTI) is the second most common infectious presentation in community medical practice after respiratory tract infections (1). A complicated UTI includes abnormalities of the urinary tract that impede urine flow. The prevalence of urinary tract infections varies with age and sex. The risk factors for UTI involve colonization with a different uropathogen in cases of recurrent UTI, glucosuria and impaired granulocyte function (2). Drug resistance is a natural biological response of microbes involving mutation and cross genetic transfer. It becomes a major problem only when disease-causing organisms develop the ability to fight off disease-curing drugs when these drugs are partially used or used unnecessarily (3). The increasing resistance pattern to a drug creates pressure to switch to a different drug that is more potent than that prescribed previously. It is worth to mention that just as drug resistance is mainly an acquired property; it can also be lost in course of time (4). The aim of this study was to determine the antibiotic susceptibility pattern of uropathogens and their sensitivity towards *W. somnifera*. *Withania somnifera* L. (Dunal) (from the family Solanaceae), which is classically known for its ethnomedicine properties. Many pharmacological studies have been conducted to investigate the properties of *Withania somnifera* as a multi-purpose medicinal agent (5). The plant is used for the treatment of tuberculosis, rheumatism, inflammatory conditions and as a potential anti-tumor agent (6).

2. Objectives

The aim of this study was to evaluate the antibacterial

Copyright © 2014, Infectious Diseases and Tropical Medicine Research Center. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/) which permits copy and redistribute the material just in noncommercial usages, provided the original work is properly cited.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Evaluation of phytochemicals extracted from *W.somnifera* – An antibacterial potential

Abdul kapur M[1] and S.Ahmed john[2]

[1]Research scholar in Microbiology, Bharathiar University, Coimbatore, Tamilnadu, India

[2]Associate professor, Dept of Botany, Jamal Mohamed College,Tiruchirapalli, Tamilnadu,India

ABSTRACT

In the present investigation, the antibacterial activity of methanolic root extracts of *Withania somnifera* was evaluated against gram-positive and negative bacteria. The ethylacetate extract of *Withania somnifera* also showed significant antimicrobial activity with the zone of inhibition was ranges between 15 mm to 20 mm. Inhibitory activity of methanolic extract of *Withania somnifera* root powder against *E. coli*, *P.aeruginosa* and *Staphylococcus aureus* were found to be moderately active against other pathogens. Maximum zone of inhibition was 20±1.32 mm against MRSA followed by 18±1.53 mm against *E.coli*. Moderate activity was recorded against *P.aeruginosa*, *Klebsiella* sp and *P.mirabilis* with 16 mm zone of inhibition. Ciprofloxacin was used as positive control as an antibacterial antibiotic which produced the inhibition zones ranging between 10 -18 mm. Crude extract further purified through TLC and antibacterial activity of fractionationated compounds was carried out. Phytochemicals present plant parts give the antimicrobial activity was detected based on bioautography. The bioautography of TLC fraction with 0.46 *Rf* value showed potent antibacterial activity against *E.coli* and the minimum inhibitory concentration was 50µg/ml.

Key words: MDR, *E.coli*, withanolide D, withaferin A, Withanine

INTRODUCTION

The medicinal plants are the foundation of traditional medicine, and 1/3 rd of people utilize medicinal plants in their regular day activities in order to maintain health. The Indian sub-continent ecosystems alone documented 17,000 species of higher plants, of which approximately 8,000 species, are considered medicinal or in traditional medicinal systems, such as the Ayurveda. Plants produce numerous chemical compounds for defense against insects, fungi, diseases, and herbivorous mammals. World Health Organization (WHO) stated about 70 percent of the world's population relies on plants for their primary health care and some 35,000 to 70,000 species has been widely used as medicaments (Padulosi et al., 2002). The medicinal plant examined in this study has long been used in Indian traditional medicine, Ayurveda as well as many other traditional drug practices of the rest of the world. *Withania somnifera*, known as 'Ashwagandha', has been an important herb in the Ayurvedic and indigenous medical systems for centuries in India (Khare,2007). Withaferin A in concentration of 10µg/ml inhibited the growth of various Gram-positive bacteria, acid-fast and aerobic bacilli, and pathogenic fungi. It was active against *Micrococcus*

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Microbiology and Biotechnology research
Volume 7, Issue 5, Page No:11-16
Copyright CC BY-NC-ND 4.0
Available Online at: www.jmbronline.com

eISSN: 2231 –3168
CODEN (USA) : JMBRB4

Studies on potential of *Withania somnifera* root extract against diabetic foot infection pathogens

Abdul Kapur Mohamed Mydeen[1*] and Ahmed John Syed Basha[2]

[1]Department of Microbiology, Bharathiar University, Coimbatore, Tamilnadu, India,
[2]Department of Botany, Jamal Mohamed College (Autonomous), Tiruchirapalli, Tamilnadu, India

DOI: 10.24896/jmbr.2017752

ABSTRACT

Withaniasomnifera phytochemical analysis of root extract showed the presence of alkaloids, flavonoids, tannins saponins, carbohydrates, quinines and phenol compounds. Studies on the prevalence of diabetic foot infections showed a total of 88 isolates belongs to seven different genera. The standard antibacterial study reveals that E.coli and S.aureus were only isolated pathogens showed the high degree of resistant pattern against all tested antibiotics. S.aureus showed 100 percent resistant to penicillin, ampicillin and amoxicillin. Out of 40 S.aureus isolates, 23 were found to be methicillin resistant and 12 were vancomycin resistant. Similarly out of 22 E.coli, 18 were resistant to penicillin; ampicillin and nine isolates were resistant to amoxicillin. The antibacterial activity of W.somnifera root extract showed potent antibacterial activity at 5mg/mL against E.coli and S.aureus. Bio assay analysis of extracted compounds reveals that the R_f value of the active fraction is 0.38. Gas Chromatography Mass Spectrum of active fraction shows the presence of 7 different chemical constituents concludes further purification of active compound is necessary. The haemolytic study confirms that the extract is safe to use since there is no haemolysis of human RBCs. Further analysis of purification and characterization of an active fraction is required for structural elucidation.

Key Words: Flavanoids, withanolids, alkaloids, ampicillin, diabetic, foot infections.

HOW TO CITE THIS ARTICLE: Abdul Kapur Mohamed Mydeen and Ahmed John Syed Basha. Studies on potential of *Withaniasomnifera* root extract against diabetic foot infection pathogens. J Microbiol Biotech Res. 2017, 7 (5): 11-16. **DOI: 10.24896/jmbr.2017752**

Corresponding author: Abdul Kapur Mohamed Mydeen
Received: 14/07/2017
Accepted:10/09/2017

INTRODUCTION

Diabetes is a chronic disorder that affects a large number of people globally and also causes a major public health problem. Diabetic foot infections are becoming a major concern among diabetic patients. Studies have shown that nearly 8% of the adult population worldwide is diagnosed with diabetes. According to World Health Organization reports, the prevalence of this condition will double by the year 2025. Another most common complications associated with diabetes is diabetic foot ulcer (DFU), which accounts around 20% of hospital admissions around the world (1). Diabetic patients, with a polymicrobial foot infection, are causes the serious problem and difficult to treat. Foot ulceration and infection are the leading risk factors for amputation (2). Approximately one-fourth of people with diabetes will develop an ulcer during their lifetime, and as many as ulcers will become infected (3). Wound infection is a multiple bacterial infection which can cause severe damage to wound tissue and delay healing. The most frequently isolated pathogens from diabetic foot wounds are aerobic Gram-positive *Staphylococcus aureus*beta-hemolytic *Streptococci* and *E.coli.* Methicillin-resistant *S. aureus* (MRSA) is a highly prevalent pathogen among diabetic patients followed by *E.coli* and *Klebsiella* spp. other bacterial isolates like *Pseudomonas*spp, *Enterococcus* spp and *Proteus* spp are play a special role in tissue destruction and poor blood circulation (4). Screening of new, effective and safe drugs for the treatments of diabetic foot ulceration is always expanding. Products of Medicinal plants prove to be very useful in reducing the adverse effects of various chemotherapeutic agents as well as a very

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Library

P: ISSN No. 2231-0045 RNI No. UPBIL/2012/55438 VOL.-7, ISSUE-1, August-2018
E: ISSN No. 2349-9435 Periodic Research

Scientometric Study of Solar Power Generation in India with Special References to Citation Analysis

Abstract

The citations are a metric study used to evaluate and categorize the documents. The citation analysis is the factual and popular technique used to access, evaluate, compare and to rank the documents based on quality. In Scopus database using the keyword, "solar power generation", reflected in Indian level 1,903 records in during the study period 2008-2017 (10 years). The citation related indicators, such as citation rate, records without citations average citation per paper, top cited publication and their source titles, citation frequency, have presented in the research paper. The above indicators should be able to convey the used records, unused records, highly used records, and source titles.

Keywords: Citation Analysis, Solar Power Generation, Solar Power, Solar Energy, Scientometric Study

S.Elumalai
Research Scholar,
Deptt. of Library Science,
Bharathidasan University,
Tiruchirappalli, Tamil Nadu

S. Jeyachitra
Librarian,
Urumu Dhanalakshmi College,
Tiruchirappalli, Tamil Nadu

J. Santhi
Librarian,
Arumugam Pillai Seethaiammal College,
Tirupathur, Tamil Nadu

Introduction

When an object is moved against a force, work is done and energy is spent in the process. Energy is the capacity to do work. The word 'energy' is derived from the Greek energeia: en means 'in' and ergon 'work'. Energy occurs in various forms and can be converted from one form to another, but the total energy in any energy conservation process always remains constant; that is, energy can neither be created nor destroyed. Power is the rate at which work is done or energy is used or supplied and may, therefore, be calculated by dividing the work done in the process by the time taken by the process. Solar energy can be harnessed in three ways: (a) by utilizing the heat from sunlight (b) by converting solar energy directly into electrical energy, and (c) by using photosynthetic and biological processes. However before solar energy can be successfully utilized, two major problems need to be solved. Firstly solar energy is highly diffused; that is, it is thinly spread over the earth's surface and so one needs to concentrate it, and secondly, solar energy has to be stored for us during the night or on a very cloudy day. [1].

Review of Literature

B.M. Gupta and S.M. Dhavan (2018) [2] they analysed thin film research in India, publications reflected in Scopus Database during the study period 2000 to 2015 (16 Years) India 14,436 publications with 1,93,849 citations. Contribution of India 5.26 % to the Global Research. Highest publication published in 2014 with 1767 publications. Top 15 institutions of thin film research 49.67% publications with 53.56% citations. Highest publications published top 3 institutes are Indian Institute of Science, Bangalore, Shivaji University, Kolhapur and Indian Institute of Technology, Delhi. The 11.79% publication with 17.41% citations are the top ten Indian authors involved thin film research.Top seven collaborative countries 66.80% publication share in India.

S.Chandra, & M. Nagarajan (2018) [3], they analysed Tuberculosis research in India, 22,871 publications reflected in Scopus database publication during the study period of 1987 – 2016. They quantitatively analysed the publication year wise, country wise, Language wise distributions, bibliographic form and author pattern. Indian publication is 22,871 (7.41%) with third position of global level research in Tuberculosis. 84 countries were collaborated in Tuberculosis research with Indian authors. Indian research publications of tuberculosis in 12 other languages, other than English. Tuberculosis research output doubles once in five years.

J. Velvizhi, N. Murugesapandian, M. Surulinathi and S.Srinivasaragavan (2011) [4] have analyzed solar energy research in

3.3.2. Number of research papers per teacher in the Journals notified on UGC

RESEARCH REVIEW JOURNALS
Volume-03
Issue-10
October-2018

ISSN: 2455-3085 (Online)
RESEARCH REVIEW International Journal of Multidisciplinary
www.rrjournals.com [UGC Listed Journal]

Research Output Analysis on Solar Power Generation: A Scientometric Study

[1]S. Elumalai, [2]Dr. S. Jeyachitra & [3]Dr. J. Santhi

[1]Research Scholar, Bharathidasan University, Tiruchirappalli, Tamil Nadu (India)
[2]Librarian, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu (India)
[3]Librarian, Arumugam Pillai Seethaiammal College, Tirupathur, Tamil Nadu (India)

ARTICLE DETAILS

Article History
Published Online: 10 October 2018

Keywords
Solar Energy, Solar Power, Solar Power Generation (SPG), Authorship pattern, Scientometric Analysis

Corresponding Author
Email: aselumalaj[a]gmail.com

ABSTRACT

The aim of this article is a scientometric analysis of solar power generation covers 20,119 records from scopus database during the study period 2008 - 2017. These articles find out year wise growth of literature, author productivity, bibliographic distribution, country wise contribution. Further authorship pattern, the degree of collaboration are analyzed. Country-wise distribution reveals that 4,153 (16.41%) records are published the United States with highest in the year 2015 at 732 records, followed by China 3,737 (14.78%), Indian rank in 3rd with 1,904 (7.52%) records and highest in the year 2017 at 614 records. The average degree of the collaborations is 0.94.

1. Introduction

Solar Energy is one of the mainly important renewable energy sources that have gained improved attention in recent years. Solar Energy is a very large endless of energy. Solar Energy is overflowing it has the greatest availability compared to other energy sources. The amount of energy supplied to the earth in one day by the sun is enough to power the total energy needs of the earth for one year [1]. Solar Energy could supply all the present and future energy needs of the world on a long-term basis [2]. This makes it one of the most capable of the unconventional energy sources. Solar Energy is a clean and free release since it does not generate pollutants or by-products harmful to nature.

2. Review of Literature

K.C. Garga and H.K. Tripathi (2018)[3] have analyzed the contents of the published articles in terms of various disciplines and sub-disciplines of the bibliometric aspects discussed in these articles. The analysis of 902 papers published by Indian scholars during 1995-2014 indicates that the main focus of bibliometrics/scientometrics is on assessment of science and technology in India followed by analysis of individual journals. The analysis of data indicated that the share of theoretical studies using and statistical technique which was missing in the earlier period (1970-1994) has increased during 1995-2014. The field of medicine as a discipline received the highest attention as compare to other disciplines.

Bharvi Dutta and Khaiser Nikamb (2014) [4] have, examine this study, look into collaboration in solar cell research in India as reflected by the publications indexing Web of Science for a period of 20 years from 1992-2010. Almost half of the total output emerged out of domestic and international collaboration. Academic institutions had an almost equal proportion of output emerging from the domestic as well as international collaboration. Among the prolific institutions, National Physical Laboratory-Delhi of the Council of Scientific and Industrial Research had the highest publications emerging out of collaborative research. Indian researches collaborated with their counterparts in 31 countries; however, South Korea, Japan, USA, Germany, England, France, and Greece were dominant collaborating research partners. Research Collaboration gained momentum during the later decade. International Collaborative output had more impact compared to domestic collaboration in terms of citations per paper.

Malti Goel, Vandana Maurya and Pranav N. Desai (2013) [5] have examined this study based on Web of Science publications database in the domain of solar energy R&D in India. Using publication and patent data, analysis from 2000-2009 has been carried out. An attempt has been made to develop introduction R&D output indicators, and data is analyzed in terms of number of the publications, technology-wise distribution, and growth of infrastructure. India is among the five leading countries in term of the number of publications. The Result show that research output in solar energy in India almost double in 2005-2009 as compared to 2000-2004, China, However, stands out in development in Solar R&D by increasing their research output, thin film technology is performing highest both in the world and in India. It is also seen that in India, the publication number has certainly increased, but the per capita publication is much on a lower side. Solar thermal research is yet to pick up. The patents are almost negligible during the period under study. No doubt, a robust R&D infrastructure exists in the country for taking up the challenge of Solar Energy Development. However, research contribution is not keeping pace with the world trends. Only a few institutions are engaged in research. A compelling observation is that despite adequate human resources and infrastructure, India Solar Research and Development is lagging behind.

3. Objective

Main Objective of the study

- To examine the year wise growth of literature during 2008 - 2017.
- To identify the author productivity and bibliographic distribution.

© RRJUM 2015, All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Advances and Scholarly Researches in Allied Education
Vol. 15, Issue No. 7, September-2018, ISSN 2230-7540

3

Solar Power Generation Research in India: A Scientometric Assessment of Indian Publications Output During 2008 - 2017

S. Elumalai[1]* Dr. S. Jeyachitra[2] Dr. J. Santhi[3]

[1] Research Scholar, Bharathidasan University, Tiruchirappalli, Tamil Nadu-620024

[2] Librarian, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu-620019

[3] Librarian, Arumugam Pillai Seethai Ammal College, Tirupathur, Tamil Nadu-630211

Abstract *– This study analysed the Indian Solar Power Generation research record output during 2008 – 2017 is using for different scientometric indicators. Data retrieved from SCOPUS international multidisciplinary online database using the search keywords Indian and Solar Power Generation. During the Study Period, a total number of 20,119 records have been identified. Out of which, 1,903 records are contributed in India. From the study analyzed the statistical tools such as the growth of publication in Globe and India, the percentage of sharing in Indian authors' record, the ranking of top 20 institution and journals contributions and scientometric techniques such as AI and PEI. Analysis of document wise distribution and authorship pattern.*

Keywords *– Solar Power Generation, Solar Power, Solar Energy, Solar Energy in India, Sientometric Study*

INTRODUCTION

In the day of energy crisis where fossil fuel becoming scared day by due to limited stock. We shall have to depend on renewable energy more and more in the future. There are several types of renewable energy, but solar energy remains as one of the principal renewable energies which can be utilized very effectively and perhaps this is one of the most efficient types of energy provides we can utilize effectively and provide we can store it for use any time we are in need. With such national and international priority, it is with necessary to bring out research on solar energy so that more thoughts can be circulated for more effective use to enable us to have the society of better tomorrow.

In India different technical institutes' research on solar energy was conducted, and the use of solar energy in different operations been encouraged. In order to the popularised solar energy system, Government is also thinking about providing the subsidy for people, to use the solar cookers, etc. And to monitor the solar energy activities department of non-renewable energy sources has been created are also doing different research activities throughout the country. Perhaps a day will come when the ray from the sun may become the principal source of energy for our day to day use (Ghosh, 1991).

REVIEW OF RESEARCH

S.H. Bhimappa and K.R.Mulla [2] analyzed Bio-Fuel Literature in India reflected from Web of Science (WoS) for the period of 1989 to 2014 (25 Years) with 757 publications. The National Policy of Bio-Fuel has facilitated to most select development and utilization of indigenous biomass feedstock for production of biofuels in India are derived from renewable biomass resources and, to supplement conventional energy sources in meeting the fast increasing requirements for transportation fuels associated with high economic growth, as well as in meeting the energy needs of India's vast rural population. Determine the core journals in the field identify the prolific authors in the field. Analyze the most productive institutions and funding agencies. From 2012 onwards Government Funded Institutions were more active in research on biofuel and its related discipline.

C. Ranganathan, [3] analyzed Green Energy Research in India reflected from the web of science (WoS) for the period 1999 to 2013 (15 years)with 1,105 publications. The authorship trend

www.isrjournals.in

3.3.2. Number of research papers per teacher in the Journals notified on UGC

REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF)
UGC APPROVED JOURNAL NO. 48514
ISSN: 2249-894X
VOLUME - 7 | ISSUE - 11 | AUGUST - 2018

SOLAR POWER GENERATION RESEARCH OUTPUT THROUGH SCOPUS: A SCIENTOMETRIC STUDY

S. Elumalai[1], Dr. S. Jeyachitra[2] and Dr. J. Santhi[3]
[1]Research Scholar, Bharathidasan University, Tiruchirappalli, Tamil Nadu .
[2]Librarian, Urumu Dhanalakshmi College,Tiruchirappalli .
[3]Librarian, Arumugam Pillai Seethaiammal College,Tirupathur .

ABSTRACT

This paper aims to quantitatively analyze the growth and improvement of solar power generation in the world in terms of publication output as reflected in Scopus database during 2000 to 2017 (18 years). The total of 22,805 papers published by the researchers in the field Solar Power Generation (SPG) in various researchers to various domains. Subject category Engineering topped with 46% of documents, in source type category Journals was 61.5% as document type and the most preferred journals were Solar Energy 4.7%. Country based analysis USA ranked 1st with 16.3% publications followed by China 14.7% and India ranked 3rd with 7.6%.

KEY WORD: *Solar Energy,Solar power, Solar Power Generation (SPG), Authorship pattern Scientometric Analysis, Year wise.*

INTRODUCTION

Today, about four-fifth of India's need for electricity are met by fossil fuels which may best supply our needs of electricity for another 100-150 years Sukhatme is vague that if renewable sources are to meet the whole demand in upcoming, solar power would provide ~47.4 per cent energy needs of the country. Ministry of New and Renewable Energy Government of India launched Jawaharlal Nehru National Solar Mission (JNNSM) in 2010 with an ambitious target of 20,000 MW of electricity by 2022 and with the objective to establish India as a global leader in solar energy.

REVIEW OF LITERATURE

A few studies are reported in literature which has deal with solar Power Generation and allied areas. Garg and Sharma have Analysis a scientometric study of globe solar power literature from 1970-1984 using Engineering Index as the database.

Dong et al have undertake a bibliometric study of solar power research for 20 years from 1991-2010 using Web of Science database.

Sinha examined trends in global solar photovoltaic research for two different periods 1981-1988 and 2001-2008 and solar photovoltaic research in India during 2000-2009 using SCOPUS database. These studies have used keywords which were general terms like "solar power", "solar generation", "solar cell", "solar photovoltaic", "solar cell material" etc. Therefore, the data retrieve through these keywords may not be all encompassing. The present study examines Specific Key Word "Solar Power Generation" covers a period of Eighteen Years from 2000 - 2017 retrieve the data from Solar Power Generation.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

AARJSH VOLUME 5 ISSUE 5 FEBRUARY 2015 ISSN : 2278 – 859X

A Peer Reviewed International Journal of Asian Academic Research Associates

AARJSH
ASIAN ACADEMIC RESEARCH JOURNAL OF SOCIAL SCIENCE & HUMANITIES

RESEARCH PRODUCTIVITY IN SOFT SKILLS: A BIBLIOMETRIC STUDY

DR.J.SANTHI[1]; DR.R.LOGANAYAKI[2]; DR.S.JEYACHITRA[3]; D.SIVASANKARI[4]

[1]Librarian, Arumugam Pillai Seethai Ammal College, Tiruppathur
[2]Librarian, Mannar Thirumalai Naicker College, Madurai
[3]Librarian, Urumudhanalakshmi College, Trichy
[4]Research Scholar, Mother Teresa Women's University.

Abstract

Bibliometric study provides the quantitative and qualitative analysis of the progress of soft skills, as reflected in its publication output reported in the mainstream of National and International Journals. This paper aims to determine the growth of literature, year wise distribution, authorship pattern, degree of collaboration and correlation among the contributions and contributors by the research publication of web of knowledge for the period of 1999 to 2012.

Keywords: Co-authorship, citations, contributions, Scientometrics.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Advancements in Library Sciences
ISSN: 2349-4352 (Online)
Volume 4, Issue 3
www.stmjournals.com

Research Productivity of Faculty Members in Urumu Dhanalakshmi College: A Scientometric Study

S. Jeyachitra[1], J. Santhi[2], K. Rajaram[3,]*
[1]Librarian, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[2]Librarian, ArumugamPillai Seethai Ammal College, Tiruppathur, Tamil Nadu, India
[3]Librarian, K.S. Rangasamy Institute of Technology, Namakkal, Tamil Nadu, India

Abstract

The bibliometric and scientometric studies are frequently used to assess research publications and to generate information that could be used by policy makers and experts. This study has proven to be a useful tool in the assessment of research publication of faculty. Taking into account the Scientist's participation in scientific collaboration, publication and productivity pattern have been calculated. The present study aims to analyze the research productivity of faculty in the Urumu Dhanalakshmi College, Trichy, India from 1994 to 2016 indexed by Google Scholar. The study has examined 106 publications during the study period. The aim of this study was to provide a profile of our college. This analysis also found the year-wise distribution of publication, most prolific author, journal-wise distribution and gender-wise distribution of authors.

Keywords: *Bibliometrics, scientometrics, collaboration.*

***Author for Correspondence** E-mail: jairajaram6@gmail.com*

INTRODUCTION

In academic and scientific work, publication is the chief means of communicating research, a primary means of recognition and reward and hence a central social process in the Institutions. Therefore, it is through publication the scientists receive professional recognition and esteem as well as promotion, advancement and funding for future research. Publication is so central to productivity in research that the work becomes 'a work' only when it takes a conventional, physical (that is published) form, which can be received, assessed and acknowledged by the scientific community. Hence publication is a social norm in a public sense and serves as a tool for the betterment of the individuals. After publication only, it can be called as research and can be fixed or judged and acknowledged by the scientists in the society. It could be seen clearly from this study discussion that bibliometric analysis is an important tool in analyzing any discipline. By keeping this view in mind, this study intends to undertake the study on research publications of faculty members in the Urumu Dhanalakshmi College, Trichy, India [1].

OBJECTIVES OF THE STUDY

The main objectives were framed to find out the:

1. Year-wise distribution of publications;
2. Gender-wise distribution of faculty members;
3. Ranking of authors based on publications;
4. Productivity of authors based on Lokta's law;
5. Journal-wise distribution of publications;
6. Institution-wise collaboration research.

METHODOLOGY

The main objective of the study was to make an assessment; in quantitative terms with respect to the publications from the Urumu Dhanalakshmi College, Trichy, India during the period 1994–2016. Google Scholar was used as the main source of data. A total of 106 publications formed the basic data for this study. All the bibliographic details of publications were transferred to spreadsheet application. After validation, the bibliographic data were analyzed as per the requirement of the researcher.

YEAR-WISE DISTRIBUTION OF PUBLICATIONS

Year-wise distribution of publications is an important indicator of publication productivity of an institution. Table 1 clearly indicates the year-wise distribution of publications during the study period 1994–2016. The year-wise

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Information Seeking Behaviour among the Students in Selected Arts and Science Colleges in Salem District: A Survey

K. Poongodi
Research Scholar, Bharathiar University,
Coimbatore- 636 016

J. Santhi
Librarian, Arumugam pillai seethai ammal college,
Tirupathur-630 211

S. Jeyachitra
Librarian, Urumudhana lakshmi College
Trichy – 620019.

Abstract

Information Seeking Behaviour is one of the important areas in user studies. The motives of users give raise to information needs and requirements. They may obtain information through the research procedure, which is the procedure of finding ideas, facts, and new information by methodical study. It plays an important role by connecting the research scholars with current and timely information. If the library professionals understand that how the users are getting awareness about the library's traditional as well as electronic resources and services, the library could make further efforts to reach the users in an efficient way. In this aspect, the present study has been undertaken and various factors like information needs, information use and seeking behaviour, visit to the library, productivity level, satisfaction on information sources, services and infrastructure facilities and staff attitude

Keywords

Information Seeking Behaviour, Arts and Science Colleges; library; information need.

Electronic access

The journal is available at www.jalis.in

JALIS

Journal of Advances in Library and Information Science
ISSN: 2277-2219 Vol. 6. No.3. 2017. pp.279-282

INTRODUCTION

Information Seeking Behaviour is one of the important areas in user studies. The motives of users give raise to information needs and requirements. To quench the force for information, users accept numerous ways and means to right to use the different channels of communication of information. Information explosion has paved the way to seek information, which is growing multiplicity at different levels, frequency, volume and use. In this situation it appears to be uncertain and varied in character, so that information needs of a particular group of users and flow of information from a specific circumstances /organization are different to conclude.

Users require information for formation of decisions. They may obtain information through the research procedure, which is the procedure of finding ideas, facts, and new information by methodical study. Establishment and perpetuation of a resource well-to-do library with require based amenities and services are important prerequisites for Universities. It plays an important role by connecting the research scholars with current and timely information.

NEED FOR THE STUDY

Nowadays information seeking behavior of the students becomes an important area of research in library information science, since the information providers and libraries not able to understand the users' information needs and the means of fulfilling their needs. Theie exist number of studies that has examined the factors that are involved to find the information seeking behavior of students of higher educational academic institutions. This study investigates the information seeking behavior of the students of the selected Arts and Science Colleges in Salem District, Affiliated to Periyar University in Tamil Nadu.

SCOPE OF THE STUDY

All research study has its limits and this study is no exemption. The limitations of the current study are given below. In this study is specific to arts and science colleges located in Salem districts only. Further, this study is based on data received from the undergraduate, postgraduate students in arts and science colleges. Appropriately of the results has not be established to other categories. The study is relies on data attained from self-appraisal method only.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

[redacted]

8

Citation Analysis on Asia Pacific Journal of Management: 2011-2015

D. Lavanya
Librarian
Thanthai Hans Roever College (A&S)
Perambalur, India

S. Jeyachitra
Librarian
Urumu Dhanalakshmi College
Tiruchirappalli, India

J. Santhi
Librarian
Arumugam Pillai Seethaiammal College
Tiruputhur, India

Abstract

Citation analysis of Asia Pacific Journal of Management" from 2011 to 2015 is carried out. 229 articles are published in the journal during 5 years. Highest numbers (58) of articles are published in the year 2013. The journal contained 19567 citations. Average number of citation per article is 85. This study also covers the analyses of authorship patterns in citing article. In authorship pattern, Two authored citations are dominant than others and it is 36.93%. The overall Journal self citation is calculated as 91.7%. This indicates that the journal commands great repute in its own field and attracts articles pertaining to the high profile areas of research.

Keywords

Authorship pattern; Citation analysis; Journal Self citation

Electronic access

The journal is available at www.jalis.in

JALIS

Journal of Advances in Library and Information Science
ISSN: 2277-2219 Vol. 6. No.2. 2017. pp.146-149

INTRODUCTION

Bibliometrics is of recent origin and relatively a new on, which has emerged as a research front in its own right in Information Science. It is now being vigorously pursued and with the result, it has been found that one-fourth of all the articles published in Library and Information science periodicals are on bibliometrics and its related topics. According to their approach, Bibliometrics and Information include "all quantitative aspects and models of science communication, storage, dissemination and retrieval of scientific information". Citation analysis retains the identity of individual article in the context of its citations included in its bibliography. While citation analysis is restricted to each article and the bibliography of citations appended to it, the analysis of bibliographic records is known as Bibliometrics. Bibliometric studies reveal a wide range of results leading to inferences regarding even the future Nobel laureates. Such studies dealing in depth of bibliographic apparatus led to the evolution of a field called "Bibliometrics" The references cited by these 229 contributions have been taken up for analysis and discussion. Data on the type publication cited a distribution over the volumes along with their percentage and other details such as the number of citations and their distribution author –wise and the age and type of citations form part of it.

The present study focuses attention on the Scientometric analysis of the pattern of publication, authorship and citation analysis by management scientist contributed in the 'Asia Pacific Journal of Management'.

REVIEW OF LITERATURE

Surulinathi, M et al. (2013)[1] has analyzed the growth and development of green computing, as reflected in publication output covered by Web of Science (WoS) online database during the 1956-2011. Among these 42 countries, Germany has produced 270 (16.24%) articles and it occupies the first place of the European continent. France and Italy have more than 200 articles produced in this field UK and Spain contributed more than 100 articles. Gomathi P (2014)[2] the present study is to analyze the SERLS journals of information management (2013) a Bibliometrics study. The bibliometrics is a set of methods to quantitatively analyze academic literature, citation analysis and content analysis are commonly used bibliometrics methods. Although

3.3.2. Number of research papers per teacher in the Journals notified on UGC

9

ISSN No. 2319-1392

...rnal Vol. 5, No. 2, Jul - Dec - 2017 PP 37-43

...LA

A Study on Information Acquisition and Retention by Facultyand Students of Symbiosis Law School through Knowledge Resource Centre of Symbiosis International University, PUNE

M. Madhanmohan
Research Scholar,Bharathidasan University,Trichy-24

Dr. S. Jeyachitra
Librarian,Urumu Dhanalakshmi College,Trichy-19, Email Id: dr.jeyachitra@yahoo.com, Ph no:9994178173

Dr. J. Santhi,
Librarian, Arumugam Pillai Seethai Ammal College,Thirupathur

Abstract

The need for Information Literacy (IL), which nurtures critical thinking and discernment about the whole gamut of information and its varying formats, prior to its consumption. Hence, this study has made an attempt to exhaustively analyse the various aspects of faculty and students demographics, information acquisition and retention and information literacy programme.

Keywords: Information ,Information Literacy, Information and Communication Technology

Introduction

Information is a resource that is naturally needed in all human endeavors, very crucial to the development of a nation, without which there would be no society. Thus, it is now commonly observed that the material prosperity of a nation is linked almost directly to its information wealth. Information availability and its free flow through an effective dissemination network represent a necessary pre-condition for the emergence of a crop of well informed citizen (Issa, 2011). With the recent developments in Information and Communication Technologies and globalization of information it is easier for individuals to access information from anywhere and at anytime Kattuddappa, 2004). Proliferation of information in varying forms, formats, and the amount has made the contemporary era 'information intensive' with manifold choices to access and retrieve information. However, this requires the skills to exploit the best choice among the myriad. Furthermore, the current scenarios mystify users evaluating the quality and authenticity before they consume information. All these intricacies pose challenges for individuals in accessing and retrieving information efficiently, sifting and evaluating its authenticity, validity, and reliability for its effective use. Here arises the need for Information Literacy (IL), which nurtures critical thinking and discernment about the whole gamut of information and its varying formats, prior to its consumption (Koneru, 2010). Hence, this study has made an attempt to exhaustively analyse the various aspects of faculty and students demographics, information acquisition and retention and information literacy programme.

Objectives of the Study

The confined objectives of the present study are as follows:

1. To reveal the demographic profile of the respondents.
2. To study the difference between demographic profiles with respect to effect of information literacy skill programme level among law users.
3. To measure the level of satisfaction with various services to the library users.
4. To assess the overall satisfaction towards the effect of information literacy skill programme level among law users.

Sampling Procedure of the Study

There are 1954 faculty and students are taken as a sample for the present study. Nine hundred questionnaires were distributed equally amongst symbiosis law school faculties and students as shown in the table.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Library Science and Information Management (IJLSIM)
www.ijlsim.in Vol.2 (3) July-September, 2016 ISSN: 2454-910X (online)

A SCIENTOMETRIC STUDY ON ASIA PACIFIC JOURNAL OF MANAGEMENT

D. Lavanya,
Librarian & Research Scholar,
Thanthai Hans Roever College (A&S),
Perambalur. T.N

Dr. S. Jeyachitra,
Librarian,
Urumu Dhanalakshmi College,
Tiruchirappalli. T.N

Dr. J. Santhi,
Librarian,
Arunugam Pillai Seethaiammal College,
Tirupathur. T.N

ABSTRACT

This study aims at presenting the scientometric study of the contributions found in the Asia Pacific Journal of Management during 2011-2015. Various scientometric measures like authorship pattern, Degree of Collaboration, volume wise distribution of articles and page wise distribution of articles are used for this study to fulfill the objectives of this study.

Keywords: *Authorship Pattern, Degree of Collaboration, Scientometrics*

1. INTRODUCTION

The term Scientometrics originated as a Russian term for the application of quantitative methods to the history of science, but its scope and objectives have widened considerably. Scientometrics is a wide ranging field with vague boundaries.

The scope of the journal is to publish all those studies of quantitative aspects of science as a discipline or economic activity. Scientometrics is part of the sociology of a science and has application to science policy making. It involves quantitative studies of scientific activities, including among others, publication, and so overlaps Bibliometrics to some extent.[1]

This term was introduced and came into prominence with the findings of the journal named Scientometrics by T. Brauin 1977, originally published in Hungary and currently from Amsterdam.

2. REVIEW OF LITERATURE

Inglesi-Lotz and Pouris (2011)[2] investigated scientometrically the effect of the NRF on the output of the South African Social Science Researchers for the period 1981-2006. Their performance is measured by the number of research publication. The

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Education

Usage of Ict Among Faculty in Engineering Colleges of Tiruchirapalli District

KEYWORDS: Information;Communication Technology

DR. S. JEYACHITRA
Librarian, Urumu Dhanalakshmi College Trichy

DR. J. SANTHI
Librarian, Arumugam Pillai Seethai Ammal College Tiruppathur

ABSTRACT *Information Communication Technology (ICT) is electronic communication technologies used for collecting storing, processing, and communicating information. There are three main categories these which information is (Data) communication is (transmission or disseminate information such as telecommunication system) technology is information (such as computer system). The revolutionary advancements in information and communication technologies (ICT) have substantially paced the growth of libraries all over the world. ICT particularly facilitates speedy library operations, services and enhances connectivity for access and delivery of information. The offer of new information and communication products and services by the libraries has provided an opportunity to the information seeker to have required and pinpointed information in no time via internet, databases, and powerful search engines through the applications if ICT even on their android based or smart phones these days. This paper presents the usage of ICT among faculty in selected engineering colleges of Tiruchirappalli district.*

ROLE OF ICT

1. ICT has revolutionized the modes and methods of information communication.

2. The advent of digital computers advances in telecommunication and audiovisual technologies.

3 Have opened up new possibilities in dealing with the problem of dissemination of vast amount of information.

4. They also help in dealing with the problems of collecting, organizing and dissemination of information.

5. Advances made in communication technologies have thrown infinite possibilities to increase speed efficiency and effectiveness of service in libraries and information centers.

OBJECTIVES OF THE STUDY

To find the Gender wise and discipline wise distribution of the respondents.

To know the purpose of using ICT tools.

To rank the search engines and browsers used by faculty.

To find out the learning ways of ICT.

To know the ways of improvement of ICT.

To know the difficulties faced while using ICT tools.

SCOPE OF THE STUDY

The study is confined to faculty members of selected Engineering colleges in Tiruchirappalli district, regarding the ICT facilities.

METHODOLOGY

A questionnaire based on survey method was adopted to gather the data on the Usage of ICT among faculty in Selected Engineering Colleges of Tiruchirapalli District. Questionnaires were distributed randomly to 25 faculty in each five colleges under survey. In all 125 questionnaires were personally distributed to the faculty members. A total of 100 filled in questionnaire were received with response rate. A questionnaire is a set of questions framed with a view to determine the user needs and user behaviors. Out of 125 questionnaires, only 100 questionnaires were complete and taken into account for analysis and interpreted for the outcomes.

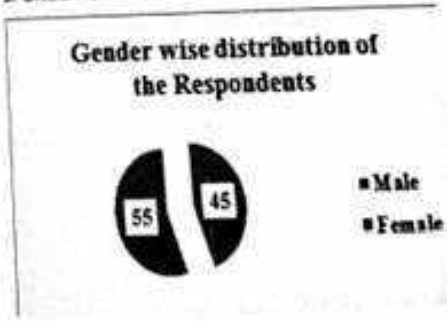
LIMITATIONS

The findings of this study are mainly applicable to faculty members in selected Engineering Colleges of Tiruchirappalli. Due to the time and cost constraint only 5 institutions have been selected for this study.

ANALYSIS OF DATA

The data collected from the faculty members through questionnaires and it was analyzed using simple percentage technique.

Fig 1 : GENDER WISE DISTRIBUTION OF THE RESPONDENTS



The above figure shows that the distribution of respondents by Gender ratio, 55% of the staff are Female and remaining 45% are Male respondents. From the table, it is noted that Female is utilizing Information Techniques for their Learning, Studying and Research work than Male category.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Communication Engineering & Systems
ISSN: 2249-8613 (online), ISSN: 2321-5151 (print)
Volume 6, Issue 3
www.stmjournals.com

LIS Education Research in India

K. Rajaram[1], S. Jeyachitra[2], S. Subha[3]*

[1]Librarian, Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India

[2]Librarian, Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[3]Librarian, Department of Library and Information Science, Sri Vasavi College, Erode, Coimbatore, India

Abstract

Libraries and Information Centres (LICs) play a vital role in the socio-economic development of a nation. The accelerated growth in research and developmental activities in sciences and technology and also in the fields of social sciences and humanities contributed to a phenomenal growth in the universe of subjects resulting in information explosion and interdisciplinary approach to research during the second half of the 20th century. These developments generated new demands and pressures on the services offered by the libraries and information centres in our country and elsewhere.

Keywords: *LIS Research, Need, Quality, Observations*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

INTRODUCTION

The rapid strides our country made in different spheres of human endeavor since independence and the efforts being made to sustain this progress and reach new heights added new dimensions to the services rendered by LICs. In order to meet these new challenges and find proper, suitable and sustainable solutions and to explore new areas, research has become sine-quo-non in the field of library and information science [1].

DEFINITIONS OF RESEARCH

There are numerous definitions we come across in the English language dictionaries, encyclopedias and other reference tools. But the definition obtained from the Webster's Third New International Dictionary is very precise and throws more light on the essential qualities of research. It defined research as; "Studious inquiry or examination; especially critical and exhaustive investigation or experimentation, having for its aim the discovery of new facts and their correct interpretation, the revision of accepted conclusions, theories, or laws in the light of newly discovered facts, or practical application of new or revised conclusions, theories or laws' [2].

In other words research is "The manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether, that knowledge aid in the construction of a theory or in the practice of an art" [3]. In another view, research in any discipline is "Any systematic quest for knowledge that is characterized by disciplined inquiry. In the process of conducting research an investigator is concerned with three major activities:

1. The definition of terms,
2. The posing of questions or stating of proposition which incorporate the defined terms in an which incorporate the defined terms in an explanatory fashion,
3. The testing of propositions or search for answers to exploratory questions" [4].

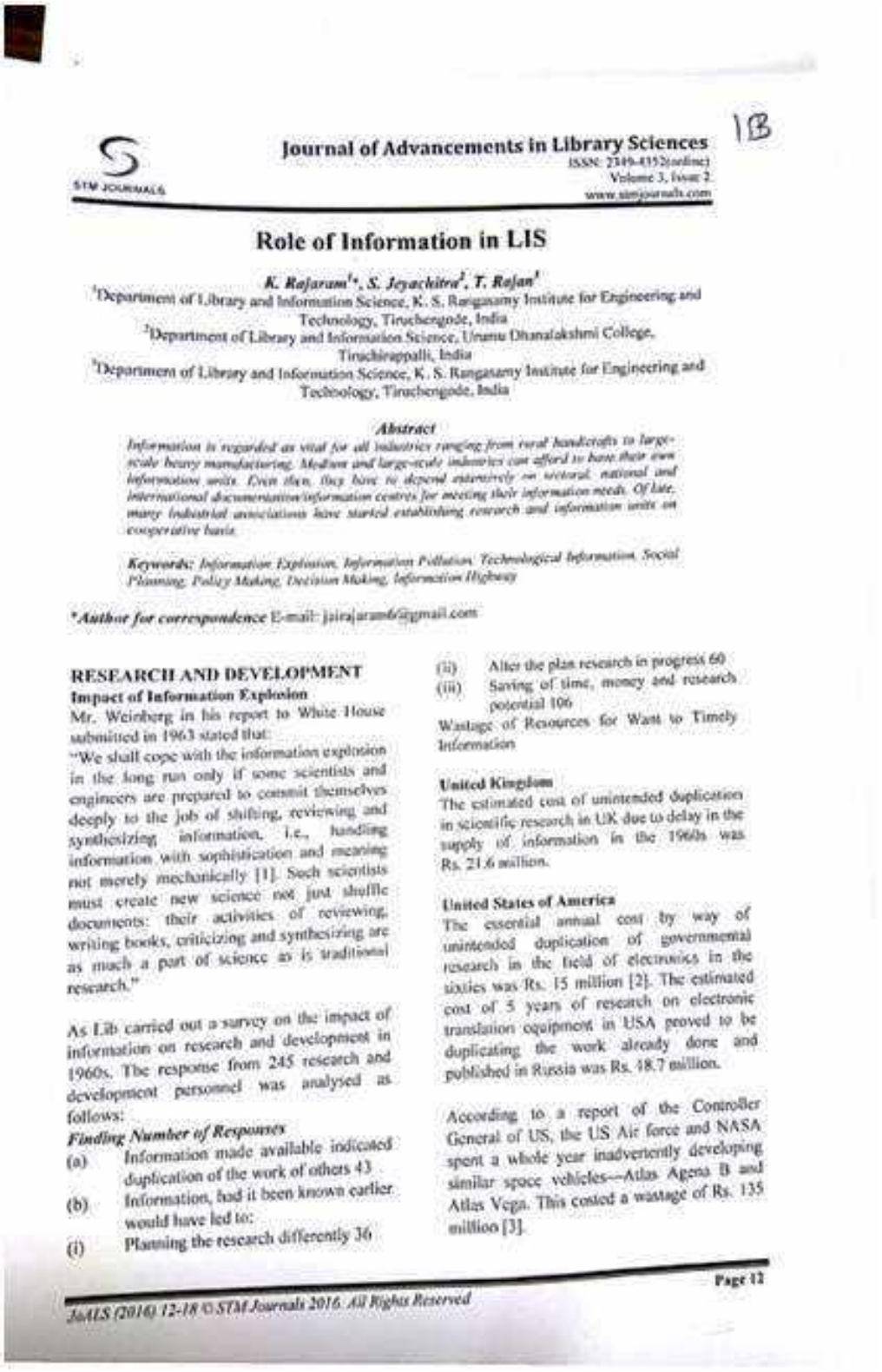
NEED FOR RESEARCH IN LIS

Several factors have contributed the need for research in LIS. Briefly these are:

1. Changes in the information scenario in the country due to socio-economic and technological developments naturally necessitated a fresh look in to the discipline.
2. Research at advanced levels is very essential for the growth and development

 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC



STM JOURNALS

Journal of Advancements in Library Sciences
ISSN: 2349-4352(online)
Volume 3, Issue 2
www.stmjournals.com

1B

Role of Information in LIS

K. Rajaram[1], S. Jeyachitra[2], T. Rajan[1]*

[1]Department of Library and Information Science, K. S. Rangasamy Institute for Engineering and Technology, Tiruchengode, India

[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, India

[3]Department of Library and Information Science, K. S. Rangasamy Institute for Engineering and Technology, Tiruchengode, India

Abstract

Information is regarded as vital for all industries ranging from rural handicrafts to large-scale heavy manufacturing. Medium and large-scale industries can afford to have their own information units. Even then, they have to depend extensively on sectoral, national and international documentation/information centres for meeting their information needs. Of late, many industrial associations have started establishing research and information units on cooperative basis.

Keywords: *Information Explosion, Information Pollution, Technological Information, Social Planning, Policy Making, Decision Making, Information Highway*

**Author for correspondence* E-mail: jairajaram6@gmail.com

RESEARCH AND DEVELOPMENT

Impact of Information Explosion

Mr. Weinberg in his report to White House submitted in 1963 stated that:

"We shall cope with the information explosion in the long run only if some scientists and engineers are prepared to commit themselves deeply to the job of shifting, reviewing and synthesizing information, i.e., handling information with sophistication and meaning not merely mechanically [1]. Such scientists must create new science not just shuffle documents: their activities of reviewing, writing books, criticizing and synthesizing are as much a part of science as is traditional research."

As Lib carried out a survey on the impact of information on research and development in 1960s. The response from 245 research and development personnel was analysed as follows:

Finding Number of Responses

(a) Information made available indicated duplication of the work of others 43

(b) Information, had it been known earlier would have led to:

(i) Planning the research differently 36

(ii) Alter the plan research in progress 60

(iii) Saving of time, money and research potential 106

Wastage of Resources for Want to Timely Information

United Kingdom

The estimated cost of unintended duplication in scientific research in UK due to delay in the supply of information in the 1960s was Rs. 21.6 million.

United States of America

The essential annual cost by way of unintended duplication of governmental research in the field of electronics in the sixties was Rs. 15 million [2]. The estimated cost of 5 years of research on electronic translation equipment in USA proved to be duplicating the work already done and published in Russia was Rs. 18.7 million.

According to a report of the Controller General of US, the US Air force and NASA spent a whole year inadvertently developing similar space vehicles—Atlas Agena B and Atlas Vega. This costed a wastage of Rs. 135 million [3].

JoALS (2016) 12-18 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Advancements in Library Sciences

ISSN: 2349-8137 (Online)
Volume 3, Issue 2
www.stmjournals.com

Database Search Strategies in Lis Professionals

K. Rajarum[1], N. Jeyachitra[2], B.N. Swaroop Rani[3]*

[1]Department of Library and Information Science, P. N. Rangasamy Institute of Technology, Tiruchirappalli, Tamil Nadu, India

[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Search specialists can be found in libraries of all kinds, but are located especially in college and university libraries and in the information centre and other special libraries associated with business and industrial organizations, law firms and medical establishments. Some search specialists are freelance entrepreneurs, in business for themselves and actively marketing their services to special user populations. Clients of online information retrieval search specialists include undergraduate and graduate students and faculty in academic libraries, and scientists, engineers, businessmen, doctors, lawyers, and many others using special libraries and information centres to help satisfy their information needs.

Keywords: *Search, Database Design, Online Strategies*

**Author for correspondence* E-mail: jairajaram@gmail.com

DATABASE

It should be noted that the word "database" is often used outside the library and information field to describe any set of computer-held structured records, which can be approached using search keys, and that the world "databank" is sometimes used synonymously.

In the field of library and information science, the words database and databank are now usually taken to have the following meanings: a database generally provides details of bibliographic references, which the searcher uses as keys in order to consult the original source literature to obtain the detailed knowledge he is seeking.

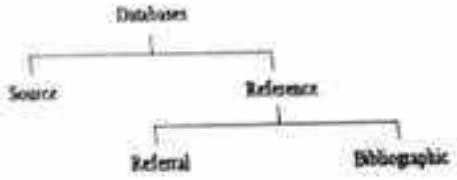
Increasingly, the online record will contain an abstract or indeed full-text detail, which answers the enquirer's question without reference to other documentation; a databank, on the other hand, concentrates on factual information and generally gives a direct answer without further reference to original source documents [1].

DATABASE DESIGN FOR ONLINE SEARCHING

Harrod's Librarian's glossary defines a database as information stored in computer files and accessible via remote terminal and telecommunication link. In other words, a database is a collection of data/information and records of documents organized in a machine-readable form.

TYPES

The database may be divided into two classes primary/source database and reference or secondary database. The source database includes numeric, textual numerical and full-text forms. While the latter includes only bibliographic reference on a subject. This can be showed in diagrammatic form as follows.



The reference database is again categorized as referral and bibliographic. Referral database directs the user to address of persons or organizations.

 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Communication Engineering & Systems
ISSN: 2249-8613(online), ISSN: 2321-5151(print)
Volume 6, Issue 1
www.stmjournals.com

STM JOURNALS

New Generation of Knowledge Management in LIS Professionals

K. Rajaram[1], S. Jeyachitra[2], B.S. Swaroop Rani[3]*
[1]Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Departments of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Knowledge management is concerned with creating organizations and societies in which subjective or tacit knowledge can be converted into objective knowledge and shared in the pursuit of communal or organizational objectives, and is the domain of politicians, chief executives and senior managers.

Keywords: *Knowledge management, information management, information strategy, knowledge workers*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

INTRODUCTION

Knowledge-based Society

There is a sense in which all members of knowledge-based society and the organizations within that society engage in information management and the organization of knowledge. Here we seek to different between:

- Information processing which is conducted by all members of a knowledge-based society.
- Information management which is concerned with managing information on behalf of others, within an organization or a community, and is primarily the domain of the professional information manager.

The structuring and organizing the information and knowledge are performed in all three of information processing, information management and knowledge management. The agents involved in the structuring and organization differ, and it is useful to recognize the basic differences between the rules of these different parties.

Information Management

Information management is concerned with the promotion of organizational (and possibly societal) effectiveness through the enhancement of the capabilities of the organization in coping with the demands of its internal and external environments in dynamic as well as stable conditions. Fairer-Wessels is more specific about the processes that this involves.

Information management is viewed as the planning organizing, directing and controlling of the information with in an open system (i.e. organization). Information management is viewed as using technology (e.g. computers, information systems, IT (information technology) and techniques (e.g. information auditing/mapping) effectively and efficiently to manage information resources and assets from internal and external sources for meaningful dialogue and understanding to enhance proactive decision-making and problem solving to achieve aims and objectives on a personal, operational, organizational and strategic level of the organization for competitive advantage and to improve the performance of the system and to raise the quality of life of the individual (by teaching him/her information skills, of which information management is one, to become a global citizen).

 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Communication Engineering & Systems
ISSN: 2249-861X(online), ISSN: 2321-5151(print)
Volume 6, Issue 1
www.stmjournals.com

Library Resource Sharing and Networking

K. Rajaram[1], S. Jeyachitra[2], B. S. Swaroop Rani[3]*
[1]Department of Library and Information Science, K.S.Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Libraries in the past had only written or printed documents. Written documents are manuscripts. These documents are always kept away and are not shared with other libraries. The users are expected to visit the library for consultation. The other category, the books were also not loaned to everyone and they were seldom shared with other libraries. With the introduction of printing by movable types, books started appearing in good number and libraries have started accepting the concept of sharing their books with other libraries.

Keywords: *Resource sharing, acquisition, processing, inter-library-loan, networking, library networks, network organization*

****Author for Correspondence*** E-mail: jairajaram6@gmail.com

INTRODUCTION

Resource Sharing

The concept of resource sharing involves two words: resource and sharing. Resource means, wealth or available assets. Sharing means giving, to have or use with others. Thus, resource sharing means one's assets with others. Resource sharing in libraries we mean sharing material, or function or services, any of the two; or all [1, 2].

Sharing of Material

Library Material: Today one finds a large number of other kinds of material (other than books) in the libraries. These include periodicals, thesis reports reference material, patents standards and specifications etc. Document is a comprehensive term used by library and information personnel to indicate the various kinds of material available in the libraries.

After the second world war, a large number of non-book material also started entering the libraries. These included microforms, audio-visual aids, etc.

Advent of computers brought in several other documents like tapes, floppies, databases on CDs, etc.

Not for Sharing

However, rich a library may be, it is impossible to acquire and store all documents within its four walls. In order to satisfy the needs of its users, it may have to depend on other libraries.

Secondly, of late there has been specialization in the collections of libraries. One has to approach such special collections to meet the special needs of its users.

Thirdly, the library budgets are decreasing and costs of documents are increasing with the result the number of documents being added to the libraries is decreasing. Fourthly, some of the tools like union catalogues, location lists, including databases made it easy to resort to resource sharing [3–6].

AREAS OF SHARING

Resources That Could Be Shared

1. Experience and expertise of library personnel;
2. Material-books, periodicals, patents, standards and specifications; audio-visual aids like microfilms, films, phono-records, audio and video tapes; computer floppies, tapes, CDs etc.

 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

IASET: International Journal of Library & Educational Science (IASET: LELS)
ISSN(P): Applied; ISSN(E): Applied
Vol. 3, Issue 1, Dec - Jan 2018, 49-56
© IASET

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations
IASET

IMPORTANCE OF INFORMATION AND COMMUNICATION SKILLS IN THE DIGITAL WORLD

K. RAJARAM[1], P. SENTHIL KUMARAN[2] & S. JEYACHITRA[3]

[1]Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India

[2]Departments of Library and Information Science, K S R College of Engineering, Tiruchengode, Tamil Nadu, India

[3]Departments of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

ABSTRACT

In the context of scientific information, the first two forms of communication play an important part. In future paperless information system, the third form will play an important role. The oral communication is also called as an informal communication; and documentary communication is also known as formal communication. White has referred to informal communication as interactive, as it involves a direct interaction between the source of information and the recipient. Formal communication, however, is non-interactive.

KEYWORDS: Communication, Formal and Informal Communications, Barriers

INTRODUCTION

Human Communication

Phenomena of Communication

We communicate many things in day-to-day life. Not only information, errors, opinions, thoughts, ideas, experiences, wishes, orders, emotions, feelings, moods, etc. heat and motion can be communicated. So can strength and weakness, and even disease.

Distorters to Communication

There are in addition, the social factors distorting communication; these would include rumours, propaganda and deliberate distortion.

Beyond Language

Even the semantic content of a message changes as it passes from one level to another. There is also what is called "illusion of exact communication." Communication is not solely a matter of language. Painting and music are also methods of communication.

Mechanical Systems

Further there are machines that process, store and transmit information. These include automatic calculating machines, information retrieval systems, data bases, mechanical speech recognizers, translating machines, etc.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Current Trends in Information Technology
ISSN: 2249-4707(online), 55551: 2348-7895(print)
Volume 6, Issue 1
www.stmjournals.com

Library Resources and Collection Development: A Study

K. Rajaram[1], S. Jeyachitra[2], R.S. Swaroop Raul[3]*

[1]Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India

[2]Departments of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

The selection activities of the public, academic and large special libraries will also vary depending upon their sizes. In small public libraries, most of the librarians are involved in the selection procedure. As the library system grows, adds branches and expands services, selection is usually delegated to the departmental heads or branch library supervisors. A large metropolitan public library system frequently assigns the selection activities to a committee composed of representatives for all service programs, though not from every branch library. This committee formulates a list of title that different service programs may select from thus serving as a first level screening group.

Keywords: *Collection development, management, development policies, acquisition and processing*

****Author for Correspondence*** E-mail: jairajaram6@gmail.com

INTRODUCTION

Collection development is an important activity of a librarian. When we say collection, it involves several kinds of documents-books, periodicals and serials, government publications, academic thesis and dissertations, research reports, annual reviews, conference proceedings, pamphlets, standards and specifications. Patents trade literature, maps, atlases and globes, photographs, illustrations, paintings, microforms audio-visual aids, etc. In addition, we have other non-conventional documents like floppies, computer tapes, compact-dises, DVD and meta-documents like instrument recorded one.

Collection Development

Collection development should be based upon certain policies and principles. The process of collection development should be granted into consideration of certain important factors like analysis of certain important factors, community of users and their needs, evolving document selection policies, acquisition of irrelevant documents, weeding out less relevant or irrelevant documents based upon the changing needs of the users and periodic evaluation.

Collection Development vs. Collection Management

It is probably fair to say that the term 'collection management' is still establishing itself within the profession. There has been a tendency for practitioners to use 'collection development' and 'collection management' synonymously, although increasingly a distinction is being made between them and a change of emphasis can be seen in mostly 'American' professional literature away from a former concentration on collection development activities towards collection management. Collection development is perceived as a concept more appropriate to earlier times of expansion in higher education and academic libraries. It implies building and growing, dealing with the selection and acquisition of library materials. Collection management is a more demanding concept, which goes beyond a policy of acquiring materials to policies on the housing, preservation and storage, weeding and discard of stock [1–3].

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Advancements in Library Sciences / 17
ISSN: 2349-4352(online)
Volume 3, Issue 1
www.stmjournals.com

Reference, Information and Referral Services in LIS

Rajaram K.[1], Jeyachitra S.[2], Swaroop Rani B. S.[3]*

[1]Department of Library and Information Science K. S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India

[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Right document reference Service is the contact established between the reader and the right document there must be of use to him. To provide the right document there must be an intimate communication between the reader and the librarian, when the user asks for help, there should be the personal involvement of the reference librarian right from the beginning to the last moment when he gets all his documents. Therefore, reference service is essentially a personal service.

Keywords: *Reference, Information and Referral Services, Information Networks*

***Author for Correspondence** E-mail: jairajaram6@gmail.com

INTRODUCTION

Reference Service

The term 'Reference Service' has been defined by Wyer as; 'the sympathetic and informed personal aid in interpreting library collection for study and research'. Margaret Hutchins, on the other hand, defines it as; 'a service that includes the direct personal aid within a library to persons in search of information for whatever purpose, and also various library activities especially aimed at making information as easily available as possible'. A similar definition is given by Dr. Ranganathan, who states that 'Reference Service' is the process of establishing right content between a reader and his document in a personal way. Thus succinctly stated reference service is the contact established between the reader and the right document at the appropriate time in the best manner possible.

The Reference Process

According to Dennis Grogan, it is a serious error to think that reference work is simply a matter of answering questions. Experienced librarians can quote many examples of questions taken at their face value and answered in a perfectly adequate manner, but which still left the reader far from satisfied. It is far better thought of as problem-solving, with the actual identification of the reader's problem being just as important as hunting for the solution [1]. It is also a mistake to think there is a reference 'method' which can be applied in all cases where information is sought. Only in certain clearly defined fields it is possible to suggest a step-by-step line of approach in searching: some areas of chemistry, for example, or of law, are so fully documented that procedures for literature searches have been laid down with some success.

This absence of a method does not mean that the librarian proceeds solely by inspiration, or even by rule-of-thumb. As Margaret Hutchins has said: 'Answering reference question is a reasoning process... it should be thought through before a step is taken or a hand lifted towards a book'. It is possible, for example, to distinguish various stages in finding information for readers which in sum make up the reference process. It is true there are a very large number of variables in this process, and the stages frequently overlap. We must agree that it is by no means an exact science, but it is susceptible of a systematic approach [2]. Dr. Ranganathan started this new type of reference Service in madras University Library in 1926. He differentiated the old and new reference

 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Journal of Advancements in Library Sciences
ISSN: 2349-4115 (Online)
Volume 3, Issue 1
www.stmjournals.com

The Role of Financial Management in Library and Information Science

Rajaram K.[1]*, Jeyachitra S.*[2]*, Swaroop Rani B. S.*[3]
[1]Department of Library and Information Science, K. S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Department of Library and Information Science, Periyar Maniammai College, Tiruchirappalli, Tamil Nadu, India
[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Generally, a budget is prepared for one year. It may be in some cases for two years and sometimes development budgets are prepared for five years and ten years also. While preparing a budget one has to take into consideration, the previous years' expenditure, proposed new programmes and schemes. It is also necessary to take standards on various aspects for estimating from the standard figures. However, standards provide a rough estimation. The allotment of money for different items essentially requires that careful consideration and analysis be made of the year's expenditure.

Keywords: *Finance, Budget, Evaluation, Cost Effectiveness, Cost Benefit*

Author for Correspondence E-mail: jairajaram6@gmail.com

FINANCE

Library Finances

Finance is the moving force for any organization. So it is with the libraries. In case of many institutions, one has to exercise to achieve a balance between the income and expenditure. In case of libraries, the expenditure is always far more than their income. Thus, libraries are 'spending institutions'. The expenditure of libraries goes on increasing with improvement of services. Their financial demands are recurring [1].

Source of Revenue

1. Subscription from the members;
2. Endowments and private benefactions;
3. Library Cess (in case of public libraries);
4. Interest on deposits;
5. Government/Quasi-government grants;
6. Fines;
7. Gifts/Donations;
8. Fees recovered from certain services (like repeography, etc.) etc.

Items of Expenditure

Major items of expenditure are:

1. Staff salaries and related charges; this is the largest budget item in all units and often accounts for over half the total expenditure.
2. Purchase of documents; this is the second largest item though it occasionally-all too rarely-exceeds staff costs.
3. Expenditure on processing (use of the computer, production of bulletins, etc.).
4. Supplies.
5. Equipment (amortization, servicing and replacement).
6. Premises (only significant for large units).
7. Communications (mail, telephone, telex, transport, etc.).
8. Expenditure on subcontracting. This item can be quite important if certain functions (computer processing; are performed by other organizations or if certain jobs (elaboration of a thesaurus) are contracted out.

Assessment of Financial Needs

There are different methods used for working out financial outlay of a library. These are described in brief.

PER CAPITA METHOD

In this method, a minimum amount per head of population is fixed and financial estimates are

JoAIS (2016) 1-7 © STM Journals 2016. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Communication Engineering & Systems

Intellectual Property Rights in LIS

K Rajaram[1], S Jeyachitra[2], BS Swaroop Rani[3]*

[1]Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, India

[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, India

[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, India

Abstract

In the world of intellectual creativity, the rights of the owners of copyright have taken a long time to be understood. The concept of copyright that is to the outcome of the hard labor of a creative person has been difficult for people to understand. Not long ago, people thought that they could use and enjoy the writings of an author, the music of a composer and the paintings of an artist freely without realizing that the creator had to be compensated. In the modern world, where everything has to be acquired by paying some amount of compensation to the owner, the fact that a creative work has also to be paid for is much less understood in developing countries than in advanced countries.

Keywords: *History, need for awareness, copyright in India, legislations covering, impact of new technology*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

HISTORY

Although copyright is an old concept, the question of evolving a system of copyright protection became a live issue only after the advent of printing. We are aware that the need to evolve a system of reciprocal protection was felt by the Western countries in the 19th century as soon as the printing techniques of multiplying copies of a printed work posed a threat to the rights and privileges of authors and creative artists as a result of increasing circulation of their works among countries.

We also know that a number of European countries entered into bilateral treaties governing copyright protection. But this created a situation of confusion for the author. Credit must be given to the framers of the Berne Convention who in 1886 had the wisdom to get together to give tangible form to international copyright protection. Since then, it has taken many more years for copyright to be fully protected with all its projections in various forms in advanced countries. Indeed, it must have been upsetting for the members of the Berne Union to see that for a long time even the USA and the USSR did not recognize the system of international protection. The USA waited till 1952 to give recognition to international copyright and the USSR became a member of the international copyright system only in 1973. In developing countries, the concept came to be understood gradually due to their association with European countries who had ruled over them. Today, however, the picture is much different than it used to be 50 years ago.

Both the Berne Convention and the Universal Copyright Convention are today known to be important multilateral conventions the world over. Even those countries where copyright laws are weak or non-existent are aware that there is something like copyright which is protected and nurtured in most parts of the world. Present tally of the countries which have signed the Berne Convention is 96 and the Universal Copyright Convention is 89. This is a great relief to those who believe in the protection and encouragement of creativity in all its forms [1–4].

NEED FOR AWARENESS

But the enactment of a copyright law in any country is just a beginning; it is the first step. The real task comes after that – how to create

© STM Journals 2015. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Communication Engineering & Systems
ISSN: 2249-8613 (Online), ISSN: 2231-5151 (print)
Volume 5, Issue 1
www.stmjournals.com

User, User Studies and User Education in LIS

K Rajaram[1], S Jeyachitra[2], BS Soorappa Rani[3]
[1]K.S.Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Dhanu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[3]Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

User education is a programme designed and operated by the library/information personnel to teach the users about the resources, the ways to locate the resources and exploit the resources. The user education programmes are to be regarded on a regular basis and from time to time. User education range from initiating a fresh user into the library/information system – teaching about the layout of the library, various units and their location, services offered by the library and how he/she can take the best advantage of the library/information system to specialized training in the areas of collecting data, analyzing the same, processing and assimilation.

Keywords: *User, user studies, user education*

Author for Correspondence E-mail: jsirajaramb@gmail.com

READER VERSUS USER

The term "reader" is extensively used in the library context. In a library, books are the major sources of information. The one who reads the books is called a "Reader". But in the context of a documentation centre or an information system, the term "Reader" do not hold good, as a large variety of documents; say, periodicals, micro forms, tapes, discs, computer floppies, etc. are used to store and disseminate the information. Some of these documents do not permit to read with naked eye.

They warrant some special equipment or tools. Sometimes, one has to use a sensory organ other than the eye. Hence an all comprehensive term "User" is employed to represent the seekers of information [1–5].

SCOPE OF THE TERM "USER"

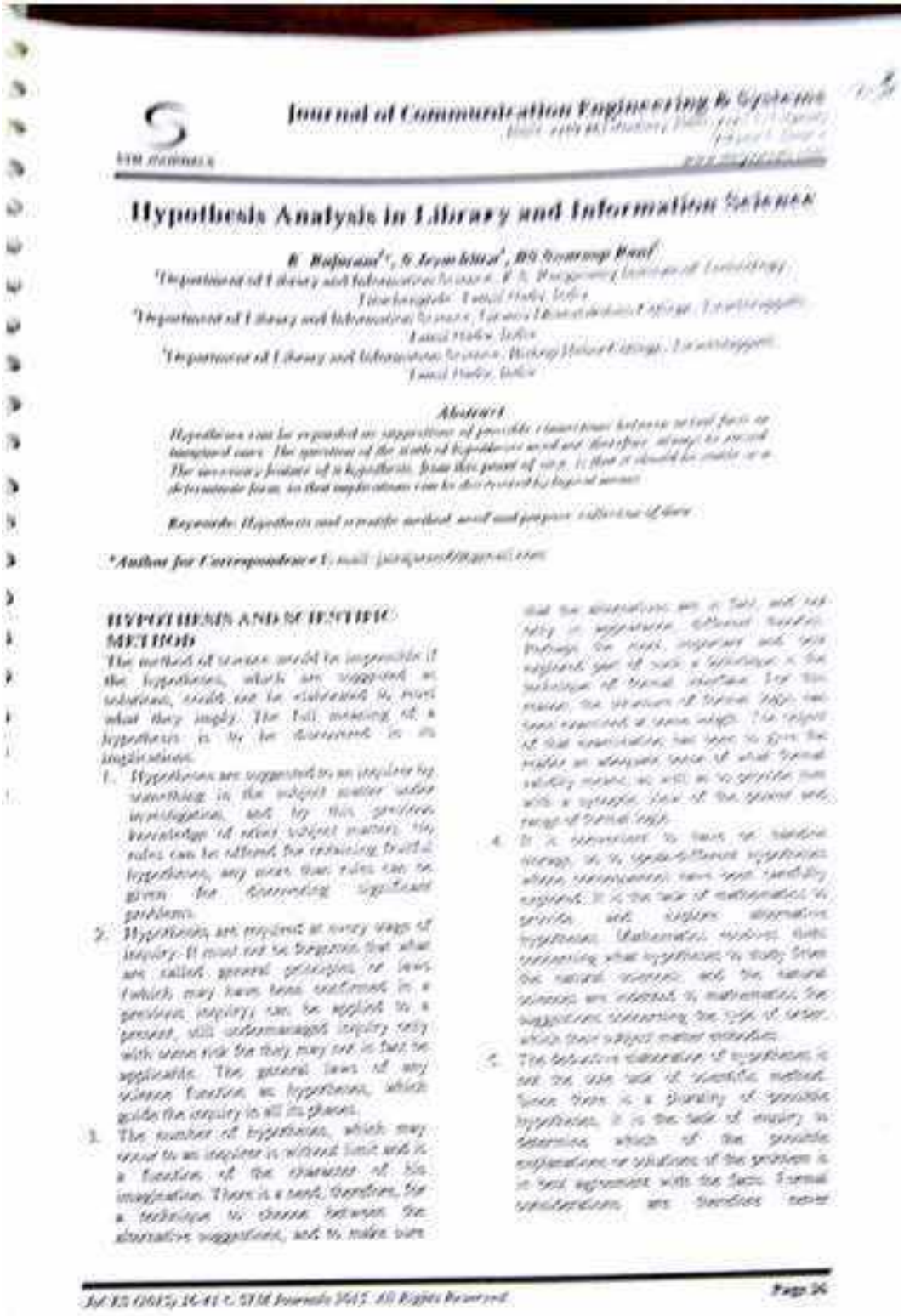
The term "User" in the context of information chain may be at the end. The generator of information, who comes in the beginning of the chain, may also be an "end-user" of information. In the context of database, he is the searcher"; a user may be a "researcher"; he may be a middle-man or a liaison officer in the dissemination of information. Thus, the term "User" is complex, varied and unclear.

THE ROLE OF THE "USER"

The user continuously interacts with the information unit. In fact, the very existence of an information unit owes to its users. The collection of varied sources of information, designing of an information unit, services planned-all are governed by his needs, attitudes, demands and characteristics. In fact the user is the focal point of all information systems. The user is involved in most operations of the documentary chain: he knows certain sources of information which he is able to weigh up and communicate. He can contribute to the selection of and sometimes even decide on new acquisitions. He can facilitate access to nonconventional literature about which he is more directly informed. He can and in fact should help develop some of the working tools such as; the documentary language, analysis grids, file structure and formats; and he may or may not be closely associated with contents description, the formulation of search strategies and the evaluation of search results. He utilizes the products and services of the information unit and states what he wants and how it should be presented. He also plays a key role in the circulation of information [4–10]. In fact the user is the essential consideration to the design, evaluation, improvement, adaptation,

© STM Journals 2015. All Rights Reserved

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Communication Engineering & Systems

Hypothesis Analysis in Library and Information Science

R. Rajaram[1]*, S. Jeyshankar[2], MS Sivasanga Rao[3]

[1]Department of Library and Information Science, [illegible]
Tiruchirappalli, Tamil Nadu, India

[2]Department of Library and Information Science, [illegible]
Tamil Nadu, India

[3]Department of Library and Information Science, [illegible]
Tamil Nadu, India

Abstract

Hypotheses can be regarded as suppositions of possible cause/s/ effect/s/ between actual facts or assumed cases. The questions of the kinds of hypotheses needed and therefore, ought to be raised. The necessary feature of a hypothesis, from the point of view, is that it should be testable or in determinate form, so that implications can be discovered by logical means.

Keywords: Hypothesis and scientific method, need and purpose, collection of data

*Author for Correspondence: E-mail: [illegible]

HYPOTHESIS AND SCIENTIFIC METHOD

The method of science would be impossible if the hypotheses, which are suggested as solutions, could not be elaborated to find what they imply. The full meaning of a hypothesis is to be discovered in its implications.

1. Hypotheses are suggested to us implicitly by something in the subject matter under investigation, and by the previous knowledge of other subject matters. No rules can be offered for obtaining fruitful hypotheses, any more than rules can be given for discovering significant problems.
2. Hypotheses are employed at every stage of inquiry. It must not be forgotten that what are called general principles or laws (which may have been confirmed in a previous inquiry) can be applied to a present, still undetermined inquiry only with more or less the risk that they may not in fact be applicable. The general laws of any science function as hypotheses, which guide the inquiry in all its phases.
3. The number of hypotheses, which may occur to an inquirer is without limit and is a function of the character of his investigation. There is a need, therefore, for a technique to choose between the alternative suggestions, and to make sure that the alternatives are in fact, and not only in appearance, different. Perhaps the most important and very frequent use of such a technique is the exclusion of logical contrary. For the moment, the question of logical contrary may be considered in some detail. The object of the investigator has been to find the reason or adequate cause of what [illegible] namely, water, so will be to provide him with a hypothesis from one of the general sets, range of [illegible] such.
4. It is convenient to think of various stages, or to speak more [illegible] hypotheses, where circumstances have not [illegible] explored. It is the task of mathematics to provide and explain alternative hypotheses. Mathematics supplies rules governing what hypotheses to study. Since the natural sciences and the natural sciences are allowed to mathematics for suggestions concerning the type of laws which their subject matter possesses.
5. The operative conception of hypothesis is not the one use of scientific method. Since there is a plurality of possible hypotheses, it is the task of inquiry to determine which of the possible explanations or solutions of the problem is in best agreement with the facts. Formal considerations are therefore never

Jrl. Of Comm. Eng. & Sys. © STM Journals 2015. All Rights Reserved.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Current Trends in Information Technology
ISSN: 2249-4707(online), ISSN: 2348-7895(print)
Volume 5, Issue 3
www.stmjournals.com

Writing Research Report in LIS

Rajaram K[1]*, Jeyachitra S*[2], *Swaroop Rani BS*[3]
[1]Department of Library and Information Science, KS Rangasamy Institute of Technology, Tiruchengode, India
[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, India
[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, India

Abstract

Finally, your data have been collected, sorted and re-sorted, studied, analyzed and re-analyzed. Now you have come to the final activity of the final stage-writing it all up. You are either at the top of the pyramid or on the last step in the recursive cycle. You remember that nothing is final and that you will constantly refer back to earlier stages and steps during the report-writing exercise.

Keywords: *Research report, writing process, editing, printing and proof reading.*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

WRITING RESEARCH REPORT

You should regard everything we have to say in this chapter as advisory rather than prescriptive, for every writing exercise has its own purpose and context and therefore unique stylistic requirements, organizational conventions and reader expectations. A dissertation, for example, will have quite rigid conventions for presentation and style, and these must be followed exactly. Journal articles and reports for funding bodies, on the other hand, may allow rather more leeway in presentation, but there will still be certain expectations for you to meet. It is best to begin, therefore, by having an absolutely clear understanding of what is required of you in a specific writing exercise. Then, to the extent possible, consider following the appropriate suggestions in this article [1].

A *report* is a document in which a given problem is dealt with in some detail. The effectiveness of a report greatly depends on the clarity and completeness of the contents and presentation. Report writing is functional writing. The ABC of functional writing is Accuracy, Brevity and Clarity. A report must convey facts based on findings (by observation, experimentation or research), spell out ideas and make recommendations [2]. Every report sees four stages. (1) Preparation; (2) Arrangement; (3) Writing; and (4) Revision. Before proceeding to write, one must make it clear in mind about the subject, scope and purpose. Decide for what purpose you are writing. Are you trying to introduce a new idea? Are you reporting some findings or, recommending a course of action?

The information is to be presented in a logical sequence. The arrangement of information is to be decided on the basis of answers to the questions – what should be the sequence of presentation of the subject matter? What terminology and what kind of words are to be used? What ideas are to be emphasized? How the text is to be substantiated – by tables, charts, diagrams, illustrations, etc.?

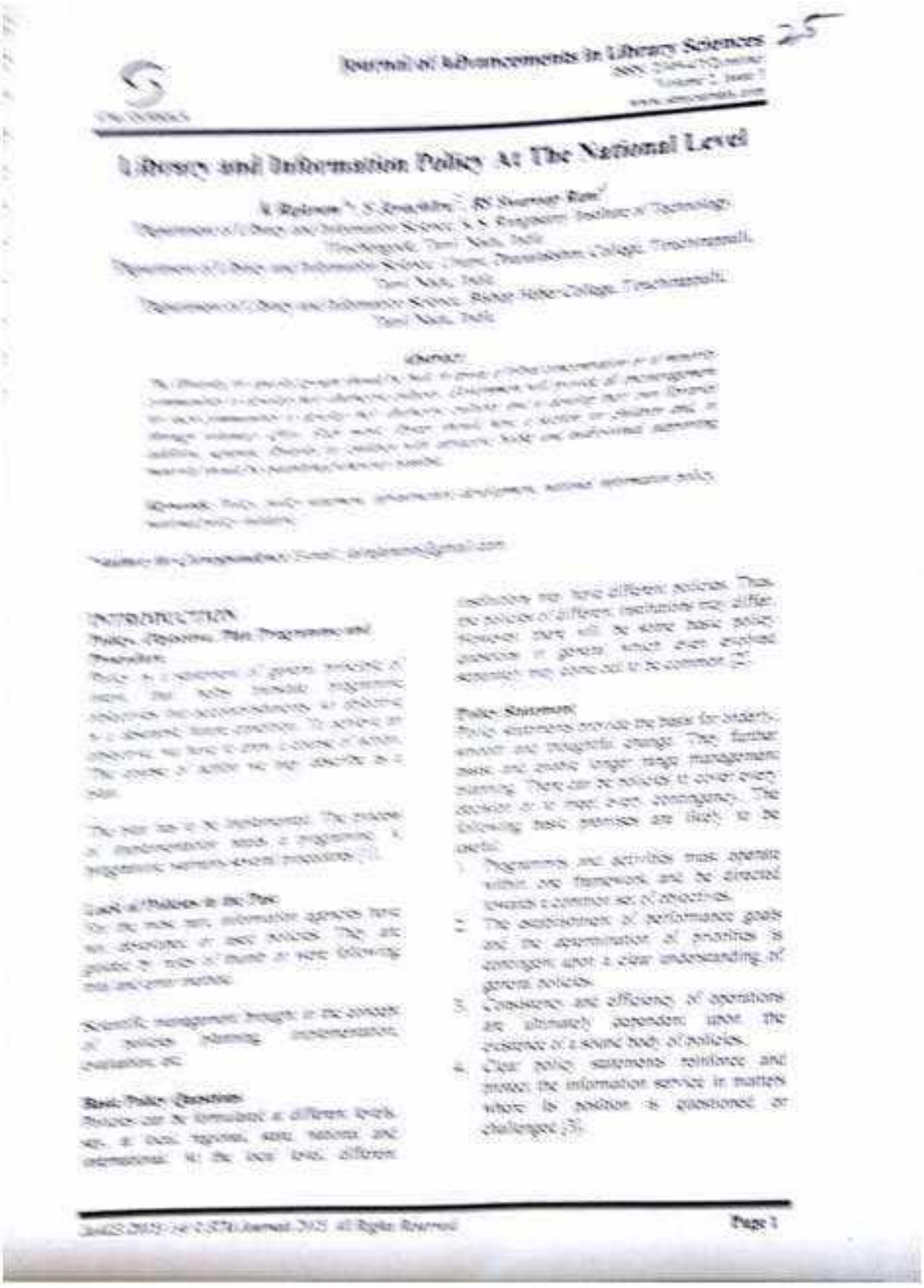
The Writing Process

Then preparing to write up the results of your qualitative investigation, remember that it helps to begin with a disciplined approach to the writing enterprise. For those new to this activity, Glesne and Peshkin offer a number of suggestions suitable for qualitative researchers.

BASIC CONSIDERATIONS

To begin with, develop a detailed schedule and firm deadlines for your writing. Work backwards from when the completed product is due, and fit each chapter or section into a realistic time frame. Remember that there will

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Advancements in Library Sciences

Library and Information Policy At The National Level

K Rajavan [a], S Arockiaraj [b], BS Sharmaa Rani [c]
[a] Department of Boys and Information Science, A.A. Engineering Institute of Technology, Thoothukudi, Tamil Nadu, India
[b] Department of Boys and Information Science, Thiru. Thanjaivadivelu College, Tiruchirappalli, Tamil Nadu, India
[c] Department of Boys and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Keywords:

Author for Correspondence (E-mail:)

INTRODUCTION

Policy, Objectives, Plan, Programme and Procedure

Need of Policies in the Past

Basic Policy Questions

Policy Statement

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Advancements in Library Sciences
ISSN: 2349-4352(online)
Volume 2, Issue 3
www.stmjournals.com

Information Transfer Chain in LIS Professionals

K Rajaram[1], S Jeyachitra[2], BS Swaroop Rani[3]*

[1]Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India

[2]Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India

[3]Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

Every scientist forms a link in information chain. On one side, he receives information on scientific advances in his field and allied fields for which he has an interest. On the other side, he processes results of his own experiments and put into circulation for the benefit of other scientists. New scientific ideas create a chain reaction among scientists. They test the validity, try to identify the potential areas of application; and conduct research for furtherance of the theory or principle. The results of testing, exploitation and elaboration by fellow scientists are received by the generator of the idea with interest and eagerness. On assimilation, he may come out with new hypothesis of new deduced laws. Thus, the chain continues in a spiral fashion. Mr. D.J. Maltha is of the opinion that the information transfer chain in the past is different from the present one in many ways. In the same way the future chain will have many distinct and differentiating features with that of the present one.

Keywords: *Information chain, generators of information, storage of information, dissemination of information*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

INTRODUCTION

THE INFORMATION CHAIN IN THE PAST

In the past the information transfer chain received little attention since the information raised no problems.

Characteristics of This Chain

a) Scientists were known to each other personally or from correspondence;
b) Scientists kept themselves abreast with latest developments by reading few journals and by exchanging reprints;
c) They could keep all the information in their mind;
d) Reference works provided additional information what they could not get from the normal channels;
e) Each scientist had his own personal library. Only occasionally did he need to visit an academic or special library;
f) Personal contacts with colleagues helped them to enrich their knowledge and get clarification; and
g) Simple author-title catalogue could help them in retrieving the literature.

Thus, the chain in the past was simple and direct. The flow of information did not warrant any systematic means of retrieving. It was an interaction between men and printed material with library acting as an interface between them [1].

INFORMATION CHAIN IN THE RECENT PAST

Since then the situation has changed radically. It has become more complicated, yet, more organized. Scientific research has now become a 'mission' as against the research in 'isolation' in the past. Scientist of various intellectual recourses are involved in research. New document products are evolved to communicate research findings quickly and precisely to the target groups [2]. Some of the scientists have come forward to organize the literature for the benefit of their community at large.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Current Trends in Information Technology

Research Methods in Library and Information Science

K. Rajaram[1]*, S. Jeyachitra[2], BS Swaroop Kanf[3]
[1]Department of Library and Information Science, [illegible]
[2]Department of Library and Information Science, [illegible]
[3]Department of Library and Information Science, [illegible]

Abstract

Research is scientific undertaking which by means of logical and systematized methods, aims to discover new facts or verify old facts, and to analyze their sequences, inter-relationships, causal explanations, and the natural laws which govern them. Research is a careful refined critical examination, and the natural laws which govern them. Research is a careful refined study or examination in seeking facts or principles; intelligent and diligent investigation in order to ascertain something. It answers questions by the accumulation and assimilation of facts, which leads to the formulation of generalizations, correct, or verify knowledge.

Keywords: *Research, Librarianship, Applied Research, Bibliographical Research, Term Research*

***Author for Correspondence** E-mail: jaisrajaram@gmail.com

INTRODUCTION

Research is an intellectual act that starts with the asking of a question and progresses through the critical and analytical study of evidence, and arrives at new conclusions or new knowledge. As per Webster's new International Dictionary research means, Studious inquiry or examination; specifically and usually, critical and exhaustive investigation or experimentation having for its aim the revision of accepted conclusion, theories or laws, in the light of newly discovered by the rule of objectivity and not of subjectivity. A research may aim at the following objectives:

(a) To find new generalization with old data;
(b) To know old conclusions with new data;
(c) To attempt to reach more conclusions from the same set of data;
(d) To put forward an entirely original idea or theory, or to discover an unexplored horizon of knowledge;
(e) To find or to resolve contradictions existing in the area of study; and
(f) To continuously develop a discipline or field of study, with the use of scientific and relational methods.

Research is necessary to examine the extent of the validity of the old conclusions or to find out some new facts and generalizations in connection with the existing ones. Thus, it purports to give a new direction and a new insight into the existing problem. Research is a means to the advancement of knowledge and science. However, it must be kept in mind that a research may not lead to an ideal solution to a problem, since it may merely clarify the existing facts and their inter-relations. This may not automatically lead to any ideal solution without involving value judgment. A good piece of research must give rise to some problems requiring further research. In other words, a research is not an end to a problem. It is rather beginning, in the sense that a new research is able to raise a new question [1-3].

RESEARCH IN LIBRARIANSHIP

Research in librarianship briefly means the collection and analysis of original data on a problem of librarianship, done within the library schools according to scientific and scholarly standards. Research in this connection broadly includes investigations; studies; academic work at the doctoral, post-doctoral, and research staff level; and in house

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Current Trends in Information Technology
ISSN: 2249-4707(online), ISSN: 2348-7895(print)
Volume 5, Issue 2
www.stmjournals.com

Marketing of Information in LIS

K. Rajaram[1], S. Jeyachitra[2], B.S. Swaroop Rani[3]*
[1]Library Department, K.S.Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Library Department, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[3]Library Department, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

This is of greatest significance to the information industry. It is possible that after having given an initial development impetus to the market, present suppliers could be seriously threatened or even completely wiped out by new entrants. New entrants are going to find it easy to come in at each end of the market, i.e. the top and the top and the bottom. At the bottom the entry price is negligible and small groups or individuals can expect to find a viable niche. This should not be a problem to present industry, but if these are the spearheads of a major broker movement, then revenue pattern will be altered.

Keywords: *marketing, information industry, marketing research, strategy, information broking*

**Author for Correspondence* E-mail: jairajaram66@gmail.com

INTRODUCTION

Those working in the information industry can be categorized into two "for profit" and "not-for-Profit". Not- for-profit organizations also cannot make a loss in the sense, they must remain within their budget. They too should market the information for their budget.

They too should market the information for their very survival or for a justifiable expansion programme. Thus, marketing of information is becoming an important subject. There are a number of factors which might be considered under:

- Market characteristics
- Services offered
- Competition
- Government activity
- Technology.

Marketing

The information industry is growing fast. It packages information in a variety of ways. It contains high growth and low growth sections; and growth within each section is subject to change dictated by new knowledge, new technology, new packaging and government intervention. These changes presumably meet an actual or artificially created want in the market or subsidized prices which people are prepared to pay [1].

User Needs

A supplier should examine user needs and his preferences. He should conduct a market research on the user needs, available services, operational costs, longevity of the demand, etc. Pricing is also important. It should not be beyond what a user can pay. Information services function in a world where operational factors are money related: i.e. the services viability depends upon profitable sales in a free competitive market.

The fact is that people who are profiting from selling information of one kind or another must have studied the quantitative aspect of desire. Unless a sufficient number of users are prepared to part with their cash- and this presumably indicates some degree of satisfaction of wants and needs, bankruptcy will overtake the supplier [2].

User Satisfaction

Act of purchase and subscription continuously are insufficient indicators of satisfaction. User satisfaction should result in better utilization and better results. There should be better income. Continuity in information seeking and diversification of activity resulting in new inventions and new products. But these studies are generally beyond the scope of information industry.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Current Trends in Information Technology
ISSN: 2249-4790(online), ISSN: 2348-7895(print)
Volume 5, Issue 2
www.stmjournals.com

Human Resource Development in LIS

K. Rajaram[1], S. Jeyachitra[2], B.S. Swaroop Raaj[3]*
[1]Library Department, K. S. Rangasamy Institute of Technology, Tiruchengode, Tamilnadu, India
[2]Library Department Urumu Dhanalakshmi College, Tiruchirappalli, Tamilnadu, India
[3]Library Department Bishop Heber College, Tiruchirappalli, Tamilnadu, India

Abstract

An essential aspect of library administration is personnel management. An older term sometimes used for this activity is "staffing", but "personnel management" better reflects the many components of this function. Personnel management typically encompasses, at the very least, recruitment and classification of employees, salary administration, training and staff development, performance evaluation, personnel policies, including grievance procedures, and possible unionization.

Keywords: *Personal management, job analysis, job description, job evaluation, leadership*

* **Author for Correspondence** E-mail: *jairajaram@gmail.com*

PERSONAL MANAGEMENT

Recruiting personnel should be based on current, well-developed job description and normally involves formal search procedures, including advertisement of vacant positions. The selection process usually includes the use of application forms, and in some cases pre-employment tests, interviews (often with a search committee), and the verification and evaluation of an applicant's credentials. Salary administration involves determining specific salaries, developing salary scales, awarding salary increases, and weighing fringe benefits. Personnel training refer to the orientation of new employees. Training provided to employees needing new skills because of reassignments or evolving duties is usually referred to as staff development. Training, that employees initiate themselves; often for purposes of career advancement, is often categorized as continuing education. Performance evaluation, not to be confused with performance or output measurement is essentially the personnel policies and procedures cover everything from performance evaluations, to promotions and raises, to grievances. Ideally, policies should be in writing, up to date, and distributed to any organization, join or organize a labor union for the purpose of collective bargaining. Collective bargaining occurs and confers in good faith regarding wages, hours, promotion, sick leave, and other terms of employment [1–5].

The function of personnel management may be grouped under the following broad headings:

1. Job analysis,
2. Job evaluation,
3. Staffing,
4. Recruitment and selection,
5. Tests,
6. Placement,
7. Induction,
8. Training,
9. Salary administration.

JOB ANALYSIS

The first and foremost function of personnel management is the job analysis. It involves the analysis of the contents of each job to be performed in an institution. "Job analysis finds out what is to be done and determines the best methods of doing it; and the qualifications required of a worker to be able to do the job satisfactorily."

The data to be obtained should be comprehensive and reliable; it should be accurate. The data should include: the specific activities, responsibilities, special information needed by the employee, how of the work to be performed, working conditions and physical demands.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Current Trends in Information Technology
ISSN: 2249-470X (online), ISSN: 2348-7895 (print)
Volume 5, Issue 1
www.stmjournals.com

30

A Scientometric Study on IEEE/ASME Transactions on Mechatronics

K. Rajaram[1]*, S. Jeyashitra[2], BS Swaroop Kanl[3]
[1]K.S. Rangasamy Institute of Technology, Namakkal, India
[2]Queen Mhanalakshmi College, Tiruchirappalli, India
[3]Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

Abstract

This paper presents the Scientometric analysis of the journal IEEE Transactions on Mechatronics between the period 2008 and 2012. This study mainly covers the authorship pattern, number of articles, citations and the number of pages. The present study has been taken to know the nature and contents of articles in the journal IEEE Transactions on Mechatronics. The journal has published 508 articles during the study period. The maximum number of contributions is from collaborative authors (three times). The degree of collaboration is calculated as 0.95. This indicates the prevalence of team research. The highest number of pages is recorded as 12"" pages. The average number of pages per article is 8.

Keywords: *Bibliometrics, authorship pattern, degree of collaboration*

*Author for Correspondence E-mail: jairajaram@gmail.com

INTRODUCTION

Bibliometric studies are gaining importance during the last ten years because the implications of these studies are of manifold significance in any field of analysis. This study determines the state and prospects of any subject and its further development. Citation is the most popular technique used in bibliometrics for studying the trends in scientific research. The term bibliometrics was first used by Allan Pritchard in 1969 who defined it as an "application of mathematical and statistical methods to book and other media of communication" [1].

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To know the overall distribution pattern of contributions
2. To know the yearwise distribution of total number of pages
3. Yearwise distribution of total number of contributions versus total number of pages
4. Authorship pattern of contribution
5. Single authored versus multi-authored papers
6. Degree of collaboration
7. Yearwise distribution of citations

METHODOLOGY

The journal *IEEE Transactions on Mechatronics* is selected for this study. All the issues of the journal for 2008–2012 have been collected and compiled from online journal articles. 508 entries have been prepared for this study. The format of the entries is in the following manner [2]:

- Number of articles
- Number of authorships
- Number of references
- Length (pages) of the article

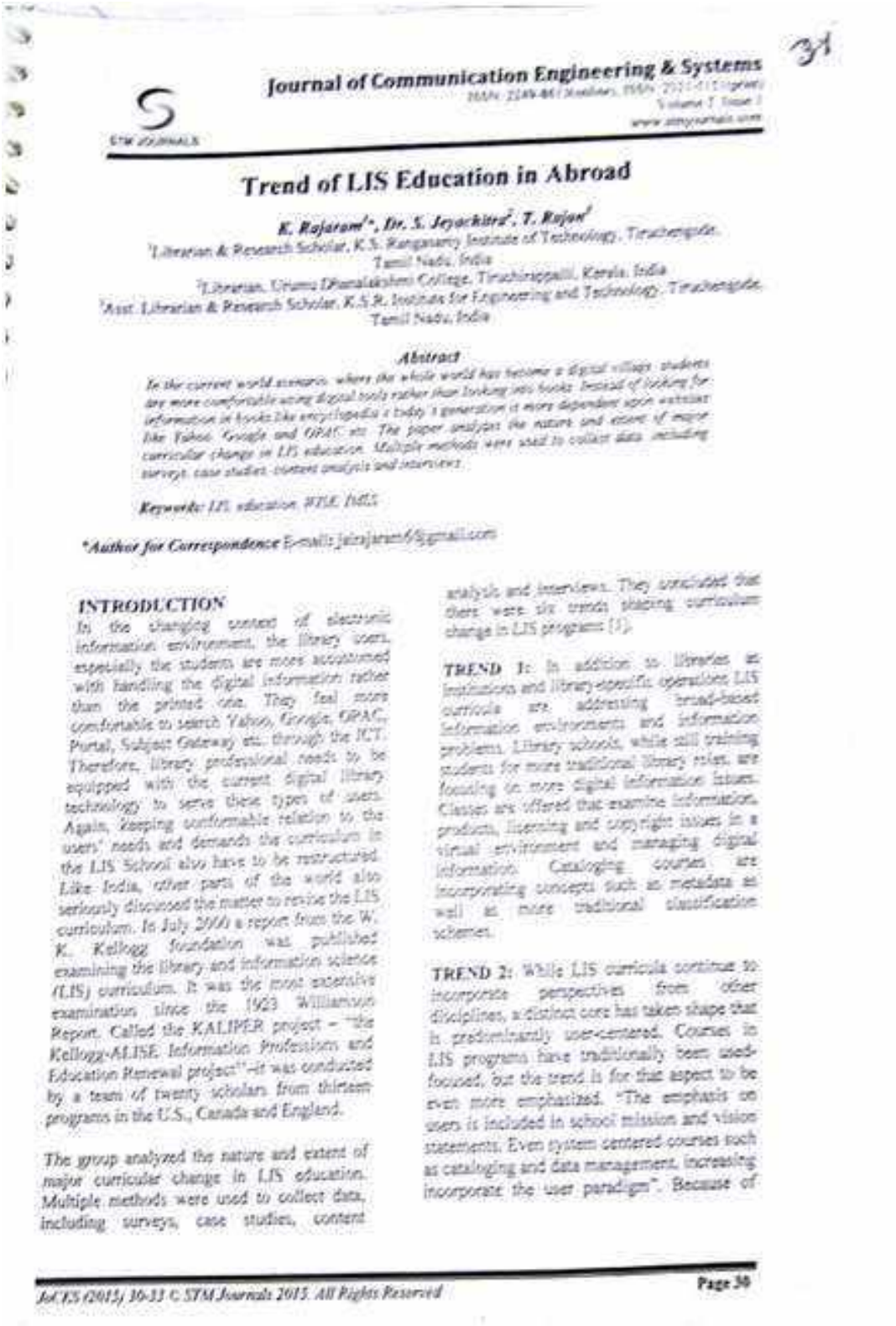
All the necessary information was compiled, recorded, tabulated and analyzed for making observations as indicated in the objectives of the study [3].

DATA ANALYSIS AND INTERPRETATION

Overall Distribution Pattern of Contributions

Table 1 and Figure 1 shows the total number of articles published from 2008 to 2012. On the whole, from the five volumes and 30 issues of the journal under study, the total number of articles published is 508. The distribution of articles by volume shows that the number of

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Communication Engineering & Systems
STM JOURNALS

Trend of LIS Education in Abroad

K. Rajaram[1]*, Dr. S. Jeyachitra[2], T. Rajan[3]
[1]Librarian & Research Scholar, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Librarian, Urumu Dhanalakshmi College, Tiruchirappalli, Kerala, India
[3]Asst. Librarian & Research Scholar, K.S.R. Institute for Engineering and Technology, Tiruchengode, Tamil Nadu, India

Abstract

In the current world scenario, where the whole world has become a digital village, students are more comfortable using digital tools rather than looking into books. Instead of looking for information in books like encyclopedia e.t.c., today's generation is more dependent upon web-based information in books like encyclopedia e.t.c., today's generation is more dependent upon web-based information like Yahoo, Google and OPAC etc. The paper analyses the nature and extent of major curricular change in LIS education. Multiple methods were used to collect data, including surveys, case studies, content analysis and interviews.

Keywords: *LIS, education, WILE, IMLS*

***Author for Correspondence** E-mail: jairajaram@gmail.com

INTRODUCTION

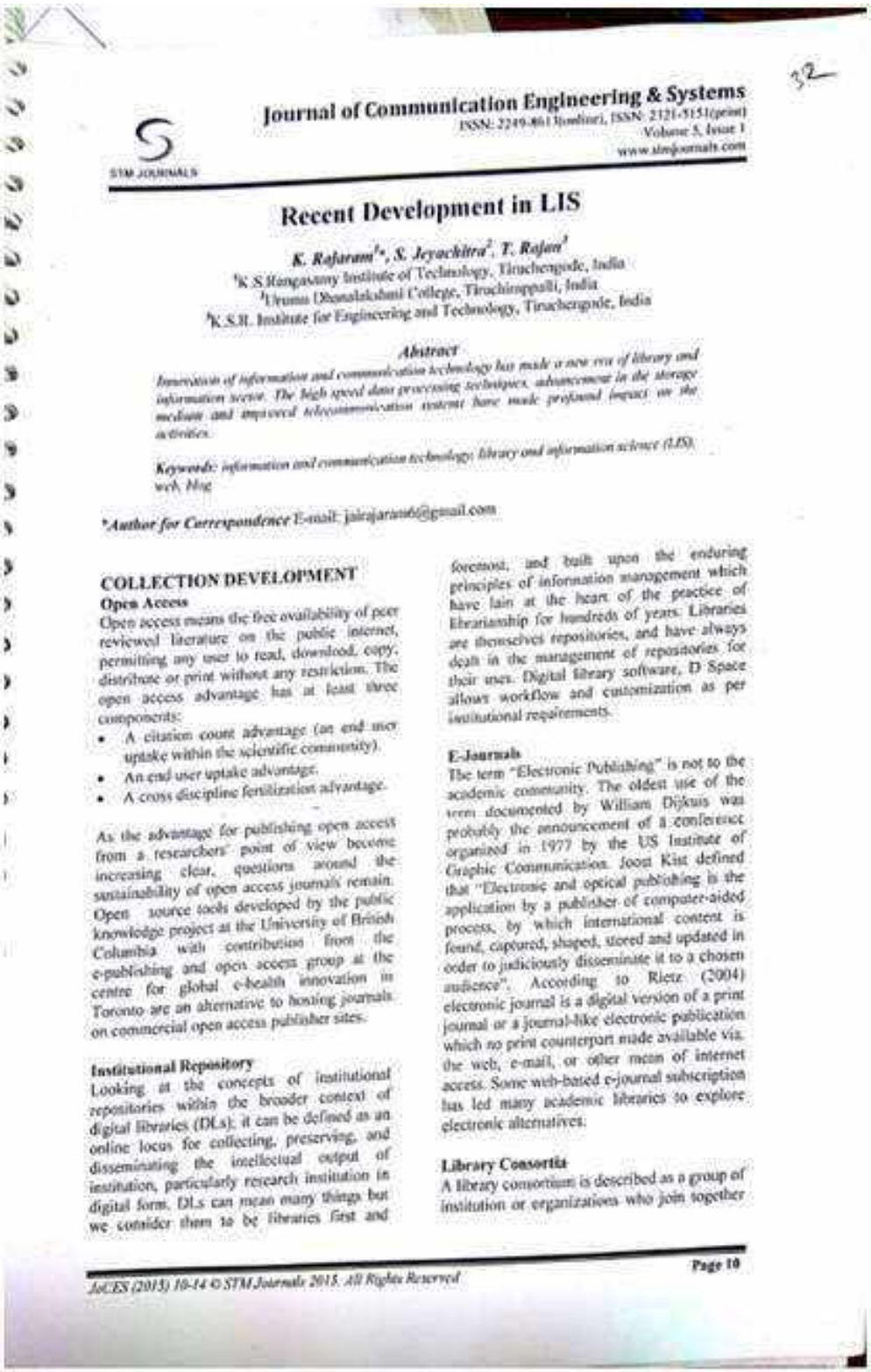
In the changing context of electronic information environment, the library users, especially the students are more accustomed with handling the digital information rather than the printed one. They feel more comfortable to search Yahoo, Google, OPAC, Portal, Subject Gateway etc. through the ICT. Therefore, library professional needs to be equipped with the current digital library technology to serve these types of users. Again, keeping comfortable relation to the users' needs and demands the curriculum in the LIS School also have to be restructured. Like India, other parts of the world also seriously discussed the matter to revise the LIS curriculum. In July 2000 a report from the W. K. Kellogg foundation was published examining the library and information science (LIS) curriculum. It was the most extensive examination since the 1923 Williamson Report. Called the KALIPER project – "the Kellogg-ALISE Information Profession and Education Renewal project"–it was conducted by a team of twenty scholars from thirteen programs in the U.S., Canada and England.

The group analyzed the nature and extent of major curricular change in LIS education. Multiple methods were used to collect data, including surveys, case studies, content analysis and interviews. They concluded that there were six trends shaping curriculum change in LIS programs [1].

TREND 1: *In addition to libraries as institutions and library-specific operations, LIS curricula are addressing broad-based information environments and information problems. Library schools, while still training students for more traditional library roles, are focusing on more digital information issues. Classes are offered that examine information products, licensing and copyright issues in a virtual environment and managing digital information. Cataloging courses are incorporating concepts such as metadata as well as more traditional classification schemes.*

TREND 2: *While LIS curricula continue to incorporate perspectives from other disciplines, a distinct core has taken shape that is predominantly user-centered. Courses in LIS programs have traditionally been used-focused, but the trend is for that aspect to be even more emphasized. "The emphasis on users is included in school mission and vision statements. Even system centered courses such as cataloging and data management, increasing incorporate the user paradigm". Because of*

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Journal of Communication Engineering & Systems
ISSN: 2249-8613(online), ISSN: 2121-5151(print)
Volume 5, Issue 1
www.stmjournals.com

32

Recent Development in LIS

K. Rajaram[1], S. Jeyachitra[2], T. Rajan[3]*
[1]K.S.Rangasamy Institute of Technology, Tiruchengode, India
[2]Urumu Dhanalakshmi College, Tiruchirappalli, India
[3]K.S.R. Institute for Engineering and Technology, Tiruchengode, India

Abstract

Innovation of information and communication technology has made a new era of library and information sector. The high speed data processing techniques, advancement in the storage medium and improved telecommunication systems have made profound impacts on the activities.

Keywords: *information and communication technology, library and information science (LIS), web, blog*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

COLLECTION DEVELOPMENT

Open Access

Open access means the free availability of peer reviewed literature on the public internet, permitting any user to read, download, copy, distribute or print without any restriction. The open access advantage has at least three components:

- A citation count advantage (an end user uptake within the scientific community).
- An end user uptake advantage.
- A cross discipline fertilization advantage.

As the advantage for publishing open access from a researchers' point of view become increasing clear, questions around the sustainability of open access journals remain. Open source tools developed by the public knowledge project at the University of British Columbia with contributions from the e-publishing and open access group at the centre for global e-health innovation in Toronto are an alternative to hosting journals on commercial open access publisher sites.

Institutional Repository

Looking at the concepts of institutional repositories within the broader context of digital libraries (DLs); it can be defined as an online locus for collecting, preserving, and disseminating the intellectual output of institution, particularly research institution in digital form. DLs can mean many things but we consider them to be libraries first and foremost, and built upon the enduring principles of information management which have lain at the heart of the practice of librarianship for hundreds of years. Libraries are themselves repositories, and have always dealt in the management of repositories for their uses. Digital library software, D Space allows workflow and customization as per institutional requirements.

E-Journals

The term "Electronic Publishing" is not to the academic community. The oldest use of the term documented by William Dijkuis was probably the announcement of a conference organized in 1977 by the US Institute of Graphic Communication. Joost Kist defined that "Electronic and optical publishing is the application by a publisher of computer-aided process, by which international content is found, captured, shaped, stored and updated in order to judiciously disseminate it to a chosen audience". According to Rietz (2004) electronic journal is a digital version of a print journal or a journal-like electronic publication which no print counterpart made available via the web, e-mail, or other mean of internet access. Some web-based e-journal subscription has led many academic libraries to explore electronic alternatives.

Library Consortia

A library consortium is described as a group of institution or organizations who join together

3.3.2. Number of research papers per teacher in the Journals notified on UGC

International Journal of Applied Research 2015; 1(13): 01-04

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 3.2
IJAR 2015; 1(13): 01-04
www.allresearchjournal.com
Received: 01-10-2015
Accepted: 02-11-2015

K Rajaram
Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India.

S Jeyachitra
Department of Library and Information Science, Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India.

BS Swaroop Rani
Department of Library and Information Science, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India.

Correspondence
K Rajaram
Department of Library and Information Science, K.S. Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India.

Citation analysis of "IEEE/ASME transactions on mechatronics"

K Rajaram, S Jeyachitra, BS Swaroop Rani

Abstract
Citation analysis of "IEEE /ASME Transactions on Mechatronics" from 2001 to 2007 is carried out. 475 articles are published in the Journal during 7 years. Highest numbers (83) of articles are published in the year 2006. The journal contained 9238 citations. Average number of citation per article is 20. This study also covers the analyses of authorship patterns in citing article. In authorship pattern, Two authored citations are dominant than others and it is 33.03% The study finds out the author self-citation and journal Self citation.

Keywords: Citation analysis, Author self-citation, Journal Self citation

Introduction
Citation analysis is the examination of the frequency, patterns and graphs of citation in articles and books. It uses citation in scholarly works to establish links to other works or others works researchers. It is one of the most widely used methods of bibliometric. For example, bibliographic coupling and co-citation are association measures based on citation analysis (shared citations or shared references)
The references cited by this 475 contributions have been taken up for analysis and discussion. Data on the type publication cited a distribution over the volumes along with their percentage and other details such as the number of citations and their distribution author– wise and the age and type of citations form part of it.

2. Scope
In this present study 9238 citations appended to 475 articles appeared in IEEE /ASME Transactions on Mechatronics published from 2001 to 2007 have been analysed. The issue numbers 6 to 12 have been covered in this study.

3. Objective
The main objectives of the study is find out the
1. Overall references.
2. Bibliographical sources of citations.
3. Authorship pattern
4. Percentage of the author self-citation
5. Percentage of the Journal self-citation

4. Methodology
The data has been compiled from online journal articles. For each article following data has been noted: Number of articles, Number of Citations, Number of authorship, bibliographical sources and other data required for the study. All the necessary information were compiled, recorded, tabulated and analyzed for making observations as indicated in the objectives of the study.

5. Data Analysis and Interpretation
5.1. Year Wise Distributions of Citations
There has been tremendous increase in the review literature by the scientists. Overall distribution pattern of citation in 'IEEE /ASME Transactions on Mechatronics during the

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Asian Journal of Information Science and Technology
ISSN: 2231-6108 Vol. 5 No. 2, 2015, pp. 12-18
© The Research Publications, www.stpj.org.in

Research Productivity of Ultrasonics in USA: A Scientometric Study

L.Jamuna Rani[1] and C.Jayachithra[2]
[1]Librarian, CARE Group of Institutions - Trichy, [2]Urumu Dhanalakshmi College-Trichy, Tamil Nadu India
E-mail: Madhumitha.trichy@gmail.com

Abstract - Scientometric is a branch of library and information science. Scientometric tools can be used to measure and compare the scientific activities at various levels of aggregation including institutions, sectors, products and countries. They can also be used to measure research collaborations, to map scientific networks and to monitor the evolution of scientific fields. In this paper mainly concerning the scientific publication of ultrasonics during 2004-2014, indexed in the Web of Science (WoS), a renowned database published online by the Thomson International, (formerly Institute for Scientific Information), Philadelphia. Scientometrics is the study of quantitative aspect of science as a discipline. These refers to component fields related to the study of dynamics of disciplines as reflected in the production of their literature.

Keywords: Scientometrics, Research productivity, Ultrasonics, USA.

I.INTRODUCTION

Science mapping aims to reveal structures of scientific literature and underlying specialties using graphical representation. All these scientometric technologies are interlinked and having much importance in analysis the data. According to Hood and Wilson, the methods of bibliometrics are closely related specialized of scientometric and webometrics. Scientometric research has a strong application-oriented tradition (Garfield, 1979b; Rauss 1997). For example, scientometric studies may help governments and private sectors to recognize their competitive limits and make intentional plans for future research areas and assign research funding to key research areas. Scientometrics is "the study of the measurement of scientific and technological progress".

This study emphasize on the study of growth of literature on Ultrasonics and its trend analysis. The research publication on Ultrasonics in USA and its contribution for research and development are playing a significant criteria for acquiring more funds from the authorities.

II.REVIEW OF LITERATURE

Aghafi, S., Asadi, M., & Osareh, F(2014). The upward trend in collaborative S&T research at the international level is significant in the present Information and Communication Technology era. The present study focuses on analysing India's strengths and weaknesses in collaborative research at the international level and collaborative fields are analysed for their macro and micro levels. The chronological trend of international collaboration, the collaborative countries, quality of the collaborative publications, collaborative fields, specialization in collaboration, etc. are the main criteria evaluated in the present work.

Schmidt, S., Bandeshah, M., Scutaru, C., Klingelhoefer, D., Groneberg, D. A., & Gerber, A. (2013). The Novel influenza in 2009 caused by H1N1, as well as the seasonal influenza, still are a challenge for the public health sectors worldwide.. The current study used scientometric indices for a detailed investigation on influenza related research activity and the method of density equalizing mapping to make the differences of the overall research worldwide obvious. The query retrieved 51,418 publications that are listed in WoS for the time interval from 1900 to 2009. There is a continuous increase in research output and general citation activity especially since 1990. Results: The researchers identified all in all 51,418 publications were published by researchers from 151 different countries. Scientists from the USA participate in more than 37 percent of all publications, followed by researchers from the UK and Germany with more than five percent. In addition, the USA is in the focus of international cooperation. In terms of number of publications on influenza, the Journal of Virology ranks first, followed by Vaccine and Virology. The highest impact factor (IF 2009) in this selection can be established for The Lancet (30.75). Robert Webster seems to be the most prolific author contributing the most publications in the field of influenza.

Khosravajardi, M., & Bayat, M. K. (2013). This study aims to assess the nanotribology research output at global level using scientometric tools. The SCOPUS database was used to retrieve records related to the nanotribology research for the period 1990-2010. The performance of the most productive countries, institutes and most preferred journals is assessed. Various visualization tools such as the Sci2 tool and Ucinet were employed. The most preferred journals were Tribology Letters, Wear and Journal of Japanese Society of Tribologists. The result of author keywords analysis reveals that Molecular Dynamics, MEMS, Hard Disk and Diamond like Carbon are major research topics.

Fricke, R., Uibel, S., Klingelhoefer, D., & Groneberg, D. A. (2013) Nanobiopharmaceutics is a good example of the convergence technologies and it is an important means of synergy and integration of technology convergence. This study takes use of scientometric method and indexes to

3.3.2. Number of research papers per teacher in the Journals notified on UGC

35

IALA Journal, Vol. 3, No. 1, Jan-June 2015, pp. 12-19
© 2015, IALA

ISSN No. 2319-1392

Publication Productivity of Ultrasonics in India

L. Jamuna Rani[1] and Dr. S. Jeyachitra[2]

[1]Librarian, CARE College of Engineering, Tiruchirappalli
[2]Librarian, Urumu Dhanalakshmi College, Tiruchirappalli

Abstract

This paper mainly focuses on visualizing the scientific publication in the field of ultrasonics indexed in Thomas Reuters accessible via Web of Science (WoS) during 2004-2014.

Keywords: Scientometrics, Bibliometrics, Almetrics, Ultrasonics

Introduction

Scientometrics and bibliometrics are used to measure scientific activities, mainly by producing statistics on scientific publications indexed in databases. They are flexible tools used to study the sociological phenomena associated with scientific communities to conduct scientific/strategic, technical, technological or competitive monitoring, to design and manage research programs and to evaluate research. They are extremely valuable methods for evaluating research output, positioning studies and conducting foresight studies in science and technology Scientometrics can be defined as the study of the quantitative aspects of scientific communication, R&D practices, and science and technology (S&T) policies. The specialty has developed in relation to the increased capacities of computer storage and information retrieval of scientific communications (e.g., citation analysis).

Archival records of scientific communication contain institutional information, substantive messages (e.g., title words), and relational information from which one is able to reconstruct patterns and identify the latent characteristics of both authors and document sets. The study of metric analysis by using the various measuring technique such as bibliometrics, Scientometrics, citation analysis and almetrics are playing the vital role in identifying the research productivity of the Institution, Individual on special topics.

This study emphasize on the study of growth of literature on Ultrasonics and its trend analysis. The research publication on Ultrasonics in India and its contribution for research and development are playing as a significant criteria for acquiring more funds from the authorities, especially from CSIR.

Review of Literature

Prakasan, E. R., Mohan, L., Garg, P., Sanwase, G., Kademani, B. S., & Bhanumurthy, K. (2014). A scientometric analysis was applied in this work to evaluate the status and trends of electric vehicle papers published between 1993 and 2012 in any journal of all the subject categories of the Web of Science. Electric vehicle was used as a keyword to search parts of titles, abstracts, or keywords. Publication trends were analyzed by the retrieved results in publication outputs, subject categories and publication pattern, international productivity.

The document co-citation analysis was done in Citespace II to find out the intellectual base and research fronts of electric vehicle. The articles about electric vehicle increased fast in the last 20 years. Eleven document types were found in all electric vehicle-related papers and proceedings paper was the most frequently used document type. Language analysis showed that English was the most dominating language.

Elango, B., Rajendran, P., & Boonmann, L. (2013) Bibliometric, and scientometric approaches are used to provide appropriate tools for evaluating scientific products at local, national, and international levels. This study is a descriptive approach using scientometric methods. In the present paper mainly focuses on visualizing the structure of the Iranian scientific publications in the field of engineering indexed in Thomson Reuters (ISI) accessible via WoS during 1939-2011. The subject areas of the clusters were in "liquid membranes", "applied chemistry", and "Liquid-liquid equilibriums". Zafarani-Moattar and Sadeghi, and Ganji, played an important role in this map.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Volume: 01 Issue: 01 January – June 2014 ISSN: 2348-1501

Use of Electronic Resources by Faculty of Selected Arts & Science Colleges in Tiruchirappalli Disrict

Dr. S. Jeyachitra
Librarian,Urumu Dhanalakshmi College, Trichy.
Dr. J. Santhi
Librarian,Arumugam Pillai Seethai Ammal College, Tiruppathur
K.Poongodi,
Librarian, Saratha College for women,Salem.

Abstract
The web based e-resources can provide learners with access to information anytime anywhere and anyplace in any format. With advancement of technology the libraries are moving towards digital resources and are helpful especially to distant learners who have limited time to access the libraries from outside by dial up access by the commonly available electronic resources mainly CD-ROMs, OPACs, and Internet etc., which are replacing the print media. This paper presents the result of a survey on the use of electronic resources by Arts & Science college faculty in Tiruchirappalli District. The main objective of this survey is to know the sources and purpose of accessing e-resources. Questionnaires were distributed randomly to 20 faculty in each five colleges in Tiruchirappalli.

Keyword: E-Resources , Digital learning communities, OPAC

Introduction
Electronic resources are the electronic representation of information Electronic information source are "a wide range of products going from electronic periodicals to CD-ROMs, from mailing list to databases, all of them having a common feature of being used and some time modified by a computer" The electronic media has provided many possibilities and opportunities for providing faster and quicker access to information at the global level. The technology for electronic publishing, electronic storage, processing and delivery of information including text and images. Electronic environment facilitate enhancement in the speed of service, number of users served, the quantum and exhaustiveness of information provided.

Scope of the study
The study is confined to faculty members of selected Arts & Science colleges in Tiruchirappalli district, regarding the usability of electronic resources.

Objectives
The main objectives are

- To study the purpose of use of electronic resources by faculty members.
- To know the frequency of using E-Resources by faculty members.
- To discover difficulties faced by faculty members while accessing and using electronic resources.
- To find out the Learning methods to use electronic resources.
- To find out the types of E-Resources accessed & preferable format for getting information.

Limitations
The findings of this study are mainly applicable to faculty members in selected Arts & Science in Tiruchirappalli and only 5 institutions selected for this study.

Methodology
A questionnaire based on survey method was adopted to gather the data on the use of e-resources by the Arts & Science College faculty in Tiruchirappalli. Questionnaires were distributed randomly to 20 teachers in each five colleges under survey. In all 100 questionnaires were personally distributed to the faculty members. A Total of 80 filled in questionnaire were received with response rate. A questionnaire is a set of questions framed with a view to ascertain the user needs and user behaviors.

Analysis of data
The data collected from the faculty members through questionnaires and it was analyzed using simple percentage technique.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

Current Trends in Information Technology
ISSN: 2249-4707 (online), ISSN: 2348-7895 (print)
Volume 4, Issue 2
www.stmjournals.com

37

Changing Trends and Development in Digital Environment: User Education

K. Rajaram[1], S. Jeyachitra[2], B. S. Swaroop Rani[3]*
[1]K. S. Rangasamy Institute of Technology, Tiruchengode, India
[2]Urumu Dhanalakshmi College, Tiruchirappalli, India
[3]Bishop Heber College, Tiruchirappalli, India

Abstract

Academic libraries today are complex institutions with multiple roles and a host of related operations and services developed over the years. Developing information technology has enabled academic libraries to move from traditional paper-based environments toward networked electronic ones. Developments in computers, microelectronics, and communication technologies have radically changed the library and information environment. A great number of global information resources are available to libraries now. The discussion focuses on the planning, organization and implementation and barriers of user in academics libraries. It also discusses the influence of information technology on user education and it is how users are introduced to OPACs, CD-ROMs and internet where available. Finally, the paper explores the possibilities of cooperation in the implementation of user education programmers in academic libraries in the digital environment.

Keywords: *User education in academic libraries, user education planning, information technology, metadata, digital repositories reference services*

**Author for Correspondence* E-mail: jairajaram6@gmail.com

INTRODUCTION

Academic libraries today are complex institutions with multiple roles and a host of related operations and services developed over the years. Yet, their fundamental purpose has remained the same: to provide access to trustworthy, authoritative knowledge. Consequently, academic libraries – along with their private and government counterparts – have long stood unchallenged throughout the world as the primary providers of recorded knowledge and historical records.

Academic libraries support the teaching and research needs of institutions they serve. It is the library's responsibility to ensure that the use of its information sources, resources and services are maximized to benefit its users, hence the necessity for user education. User education is defined as various programs of instruction, education and exploration provided by libraries to users to enable them to make more effective, efficient and independent use of information sources and services to which these libraries provide access [1].

SOME SPECIFIC COMPONENTS OF USER EDUCATION AREA

- Libraries familiarizing users, who have little or no information seeking skills at all with a broad range of library resources in order to develop library skills.
- Libraries educating users on how to find materials manually or electronically using online public access catalogues and CD-ROMs.

LITERATURE REVIEW

Evaluation of user education literature reveals the importance of user education in academic libraries. It is believed that improving of user education knowledge of a library's collection and services could be a motivating factor for more usage and more demands on the library. There is need for instruction in the use of libraries and information services. The China ministry of education recommended three

3.3.2. Number of research papers per teacher in the Journals notified on UGC

A Scientometric Study on "Ieee Transactions on Fuzzy Systems"

Library Science

KEYWORDS : Fuzzy sytems, Scientific Activities, Scientometrics

36

S.Eswaran | Research Scholar(Part time), Manonmaniam Sundaranar University, Tirunelveli

Dr.S. Jeyachitra | Librarian, Urumu Dhanalakshmi College, Tiruchirappalli

Dr. N. MurugesaPandian | Librarian and Head, Department of Library & Information ScienceGanesar College of Arts and Science, Melaisivapuri.

ABSTRACT

In this article, the scientometric study has been conducted with 451 contributions published in "IEEE Transactions on Fuzzy Systems" during the year (2004-2008) The study has observed 451 articles with 1128 authors, 5083 pages in the study period. The range of articles published per volume is between 76 to 128 ; the average number of authors per article is 3; the average number of pages per article is 11pages and this study confirms the prediction of De Solla Price that team research is a common trend in scientific activities.

1.Introduction:

Scientometrics is the study of measuring and analyzing science research.Scientometrics is a branch of library and information science. Scientometric tools can be used to measure and compare the scientific activities at various levels of aggregation including institutions, sectors, provinces and countries. They can also be used to measure research collaborations, to map scientific networks and to monitor the evolution of scientific fields.

2 .Objectives of the Study:

The objectives of the study are as follows:

1. To know the Overall Distribution pattern of contributions.
2. To know the Year-Wise Distribution of Total Number of pages.
3. Year wise Distribution of Total number of Contributions Vs Total Number of Pages.
4. Authorship pattern of Contribution.
5. Single Authored v/s Multi Authored Papers.
6. Degree of Collaboration.

3. Methodology:

The data has been compiled from online journal articles. For each article following data has been noted: Number of articles, Number of authorship, Number of references, Length (pages) of article and other data required for the study.All the necessary information were compiled, recorded, tabulated and analyzed for making observations as indicated in the objectives of the study.

4.Data Analysis & Interpretation:

Table 4. 1 Overall Distribution Pattern of Contributions

S. No	Year	Volume number	No of Issues	Number of Articles/ Contributions						Total No. of Articles	% of Articles
				Issue No. 1	Issue No 2	Issue No 3	Issue No 4	Issue No 5	Issue No 6		
1	2004	12	6	12	12	12	16	14	10	76	16.85
2	2005	13	6	15	10	12	12	12	11	72	15.96
3	2006	14	6	11	10	12	9	9	16	73	16.19
4	2007	15	6	9	16	17	16	20	24	102	22.62
5	2008	16	6	22	20	20	25	21	20	128	28.38
				69	74	73	78	76	81	451	100

Table 4.1 shows the total number of articles published from 2004 to 2008.On the whole from the 5 volumes and 30 issues of the journal understudy, the total number of articles published is 451. The distribution of articles by volume shows that the number of articles was highest in 2008, with 128 articles. It was noted that there is an increasing trend and decreasing trend in the quantum of publications from 2004.

Table 4.2 Year Wise Distribution of Total Number of Pages

Sl.No	Year	Number of Pages						Total	Percentage
		1	2	3	4	5	6		
1	2004	138	118	120	140	151	111	778	15.31
2	2005	161	96	118	128	148	126	777	15.29
3	2006	154	171	109	100	104	188	826	16.25
4	2007	119	183	189	203	244	256	1185	23.32
5	2008	253	239	264	260	251	250	1517	29.85
		825	807	791	831	898	931	5083	100

Table 4.2 shows the analysis of the number of pages of publication is one of the most important factor in Scientometric analysis. From the table it is observed that there is an increasing trend in the quantum of publications from 2004. From this analysis we know that the year 2008 records the first place in highest number of publication with 1517 pages and the year 2005 records the lowest number of pages with 777pages.

4.3 Year wise Distribution of Total No. of Contributions Vs Total No. of Pages

For more understanding the total number of articles is also compared with their pages. It is observed from table 4.3 there is a fluctuation in the number of contributions. The average number of pages are 11 per article.

Table 4.3
Year wise Distribution of Total Number of Contributions Vs Total Number of Pages

S.No	Year	Quantum of Contributions	Quantum of Total Pages	Average Number of Pages Per Contribution
1	2004	76	778	10
2	2005	72	777	11
3	2006	73	826	11

3.3.2. Number of research papers per teacher in the Journals notified on UGC

ISSN 2249-3956

39

CITATION ANALYSIS OF "IEEE TRANSACTIONS ON FUZZY SYSTEMS

S. Eswaran, Research Scholar(Part time), Manonmaniam Sundaranar University,Tirunelveli
Dr. N. Murugesa Pandian,
Librarian and Head,Department of Library & Information Science Ganesar College of Arts and Science, Melaisivapuri.
Dr. S. Jeyachitra, Librarian,Urumu Dhanalakshmi College, Tiruchirappalli.

Abstract
Citation analysis of "IEEE Transactions on Fuzzy Systems" from 2004 to 2013 is carried out. 931 articles are published in the Journal during 10 years. Highest numbers (128) of articles are publisshed in the year 2008. The journal contained 32312 citations. Average number of citation per article is 35. This study also covers the analyses of authorship patterns in citing article. In authorship pattern, Two authored citations are dominant than others and it is 38.29%.The study finds out the author self citation and journal Self citation.

Keywords: ***Citation analysis, Author self citation, Journal Self citation***

1. CITATION ANALYSIS

Citation Analysis, According to Baughman "is a systematic enquiry into the structural properties of a subject". Martyn defines it as "the analysis of citations or references of both which form part of the scholarly apparatus of primary communications. The technique is used for putting items of references in some kind of order, whether they are journals or authors cited". The references cited by this 931 contributions have been taken up for analysis and discussion. Data on the type publication cited the distribution over the volumes along with their percentage and other details such as the number of citations and their distribution author –wise and the age and type of citations form part of it.

2. SCOPE

In this present study 32312 citations appended to 931 articles appeared in IEEE Transactions on Fuzzy Systems published from 2004 to 2013 have been analysed. The issue numbers 12 to 21 have been covered in this study.

3. OBJECTIVES

The main objectives of the study is find out the

1. Overall references.
2. Bibliographical sources of citations.
3. Authorship pattern
4. Percentage of the author self citation
5. Percentage of the Journal self citation

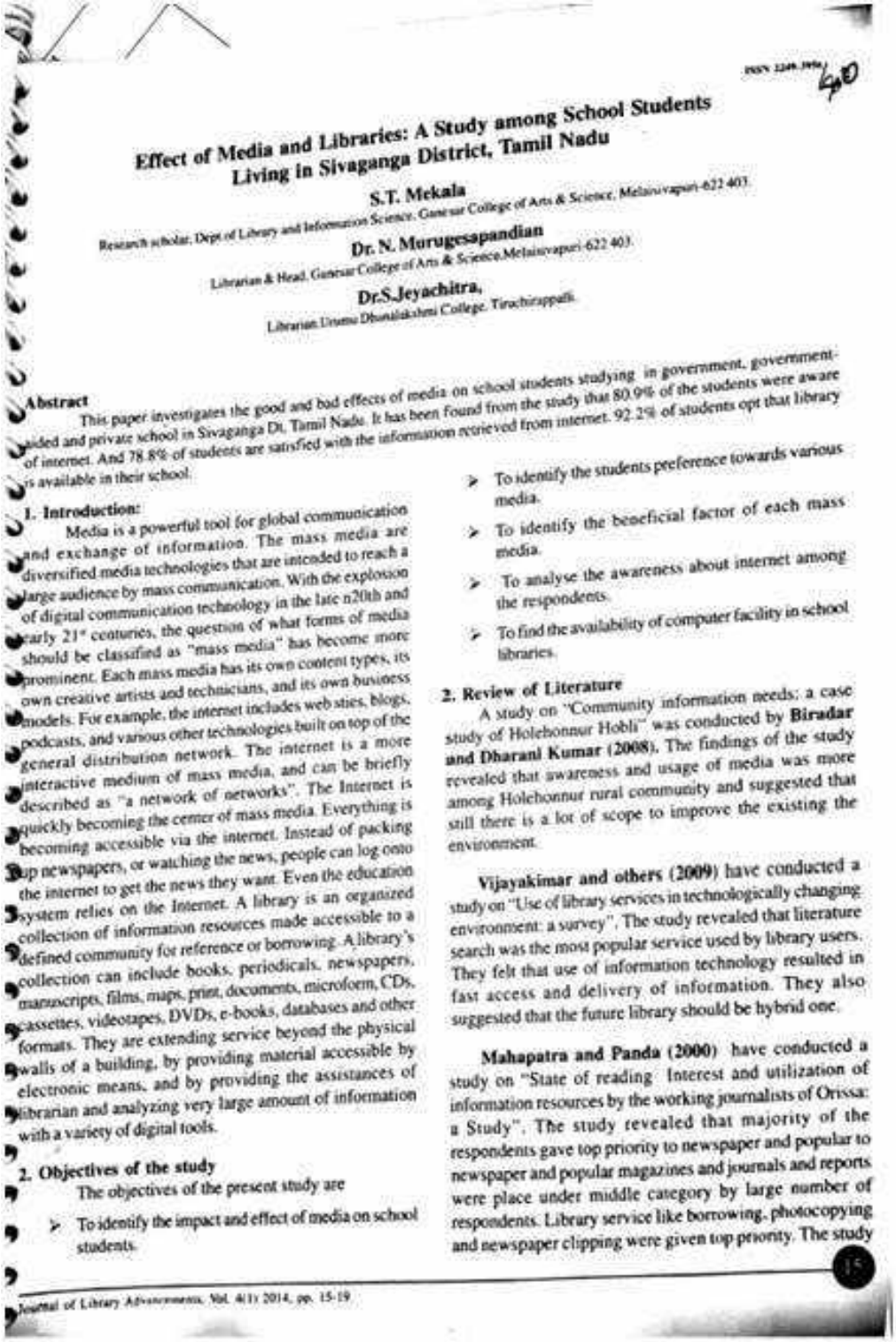
4. METHODOLOGY

The data has been compiled from online journal articles. For each article following data has been noted: Number of articles,Number of Citations, Number of authorship, bibliographical sources and other data required for the study. All the necessary information were compiled, recorded, tabulated and analyzed for making observations as indicated in the objectives of the study.

5. DATA ANALYSIS AND INTERPRETATION

5.1.YEAR WISE DISTRIBUTIONS OF CITATIONS There has been tremendous increase in the review literature by the scientists. Overall distribution pattern of citation in 'IEEE Transactions on Fuzzy Systems' during the period 2004 to 2013 in 60 issues of 10 volumes is 32312.Table 5.1 represents the year-wise distribution o citation during the period of study. It reveals that a total o 32312 citations are appended to 931 articles. The numbe of citations per year varied from a minimum of 1869 citatior to a maximum of 4274 citations. The average number · citations per article is calculated as 35.

3.3.2. Number of research papers per teacher in the Journals notified on UGC



Effect of Media and Libraries: A Study among School Students Living in Sivaganga District, Tamil Nadu

S.T. Mekala
Research scholar, Dept of Library and Information Science, Ganesar College of Arts & Science, Melaisivapuri-622 403.
Dr. N. Murugesapandian
Librarian & Head, Ganesar College of Arts & Science,Melaisivapuri-622 403.
Dr.S.Jeyachitra,
Librarian,Urumu Dhanalakshmi College, Tiruchirappalli.

Abstract
This paper investigates the good and bad effects of media on school students studying in government, government-aided and private school in Sivaganga Dt, Tamil Nadu. It has been found from the study that 80.9% of the students were aware of internet. And 78.8% of students are satisfied with the information retrieved from internet. 92.2% of students opt that library is available in their school.

1. Introduction:

Media is a powerful tool for global communication and exchange of information. The mass media are diversified media technologies that are intended to reach a large audience by mass communication. With the explosion of digital communication technology in the late n20th and early 21st centuries, the question of what forms of media should be classified as "mass media" has become more prominent. Each mass media has its own content types, its own creative artists and technicians, and its own business models. For example, the internet includes web sties, blogs, podcasts, and various other technologies built on top of the general distribution network. The internet is a more interactive medium of mass media, and can be briefly described as "a network of networks". The Internet is quickly becoming the center of mass media. Everything is becoming accessible via the internet. Instead of packing up newspapers, or watching the news, people can log onto the internet to get the news they want. Even the education system relies on the Internet. A library is an organized collection of information resources made accessible to a defined community for reference or borrowing. A library's collection can include books, periodicals, newspapers, manuscripts, films, maps, print, documents, microfoem, CDs, cassettes, videotapes, DVDs, e-books, databases and other formats. They are extending service beyond the physical walls of a building, by providing material accessible by electronic means, and by providing the assistances of librarian and analyzing very large amount of information with a variety of digital tools.

2. Objectives of the study

The objectives of the present study are

- To identify the impact and effect of media on school students.
- To identify the students peeference towards various media.
- To identify the beneficial factor of each mass media.
- To analyse the awareness about internet among the respondents.
- To find the availability of computer facility in school libraries.

2. Review of Literature

A study on "Community information needs: a case study of Holehonnur Hobli" was conducted by **Biradar and Dharani Kumar (2008).** The findings of the study revealed that awareness and usage of media was more among Holehonnur rural community and suggested that still there is a lot of scope to improve the existing the environment.

Vijayakimar and others (2009) have conducted a study on "Use of library services in technologically changing environment: a survey". The study revealed that literature search was the most popular service used by library users. They felt that use of information technology resulted in fast access and delivery of information. They also suggested that the future library should be hybrid one.

Mahapatra and Panda (2000) have conducted a study on "State of reading Interest and utilization of information resources by the working journalists of Orissa: a Study". The study revealed that majority of the respondents gave top priority to newspaper and popular to newspaper and popular magazines and journals and reports were place under middle category by large number of respondents. Library service like borrowing, photocopying and newspaper clipping were given top priority. The study

3.3.2. Number of research papers per teacher in the Journals notified on UGC

STM JOURNALS

Journal of Advancements in Library Sciences

Volume 1, Issue 1
www.stmjournals.com

Importance of Information Literacy Skills in the Digital World

K. Rajaram[1], S. Jeyachitra[2], B. S. Swaroop Rani[3]*
[1]K.S.Rangasamy Institute of Technology, Tiruchengode, Tamil Nadu, India
[2]Urumu Dhanalakshmi College, Tiruchirappalli, Tamil Nadu, India
[3]Bishop Heber College Tiruchirappalli, Tamil Nadu, India

Abstract

Information literacy is a basic human right in the digital world as it empowers individuals in all walks of life to seek, evaluate use and create information effectively to achieve their personal, social, occupation and education goals. This paper attempts to explain the various aspect of information literacy to possess for the professionals to provide effective services in the digital world.

Keywords: Information Literacy; Information Retrieval; Information Skills

**Author for Correspondence* E-mail: jairajaram6@gmail.com

INFORMATION LITERACY

The term was first used by Paul Zurkowski in the 70s to fetch people's attention engaged in newly emerging technical environments. Now the concepts has been taken as mainstream of concern area by the information specialists and scientists. The concept has now been made public worldwide with the efforts of the American library association and national forum for information literacy. According to ALA, (1998) to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effective the needed information. Darch et al. (1997) argues that information literacy requires an awareness of the way in which information systems work, of the dynamic link between a particular information need and the sources and channels required to satisfy that need national forum on information literacy views information literacy the ability to know when there is a need for information, and to be able to identify .locate, evaluate, and effectively use that information for the issue or problem at hand [1, 2].

GOLAS OF INFORMATION LITERACY

- Determination of the breadth and nature of information needed.
- Access effectively and efficiently the needed information.
- Critical evaluation of information and its sources.
- Optimal and effective use of information for accomplishing ones task
- Realization of economics legal and social issues encompassing the information use to access and use information ethically and legally.
- To differentiate between various types of available information.
  - o Scholarly and popular
  - o Primary and secondary
- Awareness of fair use and copy right.
- Understand the issues of plagiarism and piracy.

NEED OF INFORMATION LITERACY

- Judge the credibility of information.
- Acceptance of authoritative texts in the classroom or home library.
- Reliability of information available on the World Wide Web.
- Acquisition of competencies of information literacy.
- Increasing role of ICT in libraries and information centers.

3.3.2. Number of research papers per teacher in the Journals notified on UGC

e-Library Science Research Journal
Vol.2 | Issue 5 | March 2014

ISSN : 2319-8435

Research Papers

Impact Factor : 0.389

E-LITERACY AND LIS PROFESSIONALS

K. Rajaram , S. Jeyachitra and B.S.Swaroop Rani

Librarian & Research Scholar, K. S. Rangasamy Institute of Technology, Tiruchengode
Librarian, Hasaan Ibrahim Saheb College, Tiruchirappalli
Associate Professor, Bishop Heber College, Tiruchirappalli

Abstract:

The main and foremost aim of LIS Professionals is to provide package information as and when needed to their users(s). In this regard information should be copied of multi-level form depending on the users need. Information literacy is the process of knowing different aspect of information. But in the present era a huge number of information source is existing on electronic form, information literacy is evolved in Indian Library that must be thought of as information literacy in an age digital information.

KEY WORDS :

LIS Professionals, E-Literacy , electronic , digital information

INTRODUCTION

INFORMATION LITERACY

In the information literate a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. (American Library Association, 1989) Information literacy is the ability to make significant connections to basic interpretations to achieve creativity and responsible conduct.

Information literacy includes library research skills and ITC literacy but are broader than these. Information literacy is not just about finding and presenting information, it is about higher order analysis, synthesis, critical thinking and problem solving. It involves seeking and using information for independent learning, lifelong learning, participative citizenship and social responsibility.

E-LITERACY

Transformation literacy required in the new economy characterized by changes in social, political, economics and civic life that have come in the wake of globalization in the 21st century. New literacy includes literacy with the means of awareness of the IT and the information environment, confidence in using generic IT and information tools and applications, evaluation of information handling operations and products, which translates into the ability to access, understand, analyze and critique information and the capacity to produce, communicate and use knowledge from various sources for varied tasks and activities.

E-Literacy is a crucial enabler of individuals and institutions in moving successfully in a world where open electronic networks and facilities. Finally it is a responsibility.