Sub Code : P16MB42 **Set: I**

URUMU DHANALAKSHMI COLLEGE
TIRUCHIRAPPALLI – 620 019
M.Sc. Degree Examination, April 2020

Department : MICROBIOLOGY
Semester IV
Subject Title : BIOPROCESS TECHNOLOGY

Time: Three Hours **Maximum: 75 Marks**

SECTION-A (10×2=20)

Answer **ALL** the questions,

1. Industrial strain.
2. Freeze drying.
3. Baffels.
4. Aeration.
5. Log phase.
6. Batch culture.
7. *Saccharomyces cerevaceae*.
8. Endotoxin.
9. WTO .
10. Patent.

SECTION-B (5×5=25)

Answer **ALL** the questions.

1. a) Brief note on primary screening of industrial strains.

(or)

b) Brief note on strain selection.

2. a) Write a detailed note on parts and their function of a typical fermenter.

(or)

b) Write a note on fermentation media.

3. a) Brief note on batch culture.

(or)

b) Comment on inoculums development.

4. a) Write short note on acidophilus milk and cheese.

(or)

b) Give an account on food sanitation.

5. a) Write note on biodiversity.

(or)

b) Discuss in detail about the Indian agencies involved in IPR and patenting.

SECTION-C (3×10=30)

Answer any **THREE** questions.

6. Elaborate study on strain improvement by rDNA technique.

7. Write a detailed note on photobioreacter.

8. Detailed study on continuous culture.

9. Discuss the food intoxication.

10. Give an account on patent cooperation treaty.

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Sub Code: P16MB42 **Set: II**

URUMU DHANALAKSHMI COLLEGE
TIRUCHIRAPPALLI – 620 019
M.Sc. Degree Examination, April 2020

Department : MICROBIOLOGY
Semester IV
Subject Title : BIOPROCESS TECHNOLOGY

Time: Three Hours **Maximum: 75 Marks**

SECTION-A (10×2=20)

Answer **ALL** the questions,

1. Screening the Industrial strain.
2. Lyophilization.
3. Impellers.
4. Agitation.
5. Inoculum.
6. Batch culture.
7. Yeast.
8. Aflotoxin.
9. IPR .
10. Patent.

SECTION-B (5×5=25)

Answer **ALL** the questions.

11. a) Brief note on secondary screening of industrial strains.

(or)

b) Brief note on strain improvement.

12. a) Write a detailed note on sterilization of fermenter equipments.

(or)

b) Write a note on photobioreacter.

13. a) Brief note on media formulation.

(or)

b) Comment on inoculum development.

14. a) Write short note on SCP.

(or)

b) Give an account on botulism.

15. a) Write note on biodiversity.

(or)

b) Discuss in detail about the International agencies involved in IPR and patenting.

SECTION-C (3×10=30)

Answer any **THREE** questions.

16. Elaborate study on preservation of industrial strain.
17. Write a detailed note on parts and their function of a typical fermenter.
18. Detailed study on media formulation and modification.
19. Discuss in detail about the spoilage of canned foods.
20. Give an account on IPR in India.

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II MSc MICROBIOLOGY
SET 2

TOTALMARKS: 75

SECTION A

10X2=20

ANSWER THE FOLLOWING

1. Peptide vaccine.
2. Single cell protein
3. Nitrogen Fixation.
4. Molecular scissors.
5. Siderophores.
6. Ti Plasmid.
7. Microbial Insecticide.
8. Gene Therapy.
9. Genetic disease.
10. Anti freeze proteins.

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SECTION B

5X5=25

ANSWER THE FOLLOWING

1. Write in detail about the production of growth hormone.

(or)

Describe about genetic immunization.

2. Explain the production process of Antibiotics.

(or)

Write in detail about the production of lactic acid.

3. Discuss in detail about mass cultivation, storage and application of biofertilizer Rhizobium.

(or)

Give an account on viral insecticides.

4. Explain in detail about the production of herbicide resistant plants.

(or)

Describe about the production of fuel from micro algae.

5. Write in detail about the principles of Biosafety and Bio ethics.

(or)

Write in detail about the methods of creating transgenic animals.

SECTION C

3X10=30

ANSWER ANY THREE

1. Discuss about the production of monoclonal antibodies and its applications.
2. Explain in detail about the production and application of lipase enzyme.
3. Discuss about the mass cultivation and storage of VAM as Bio fertilizer.
4. Write in detail about the genetic engineering process in modification of flower.
5. Write about how to draft and fill a patent application.

URUMU DHANALAKSHMI COLLEGE
DEPARTMENT OF MICROBIOLOGY
II MSc MICROBIOLOGY
SET 1

TOTALMARKS: 75

SECTION A

10X2=20

ANSWER THE FOLLOWING

1. Interferon.
2. Subunit Vaccine.
3. Herbicide Resistant plants.
4. Transgenic Animals.
5. Human gene therapy.
6. Copy right.
7. Single cell protein.
8. VAM.
9. Xanthum Gum.
10. Peptide Vaccines.

SECTION B

5X5=25

ANSWER THE FOLLOWING

1. Write in detail about the production of interferon.

   (or)

   Describe the production process of subunit vaccines
2. Explain the production process of Alcohol.

   (or)

   Explain the production process of L- glutamic acid.
3. Discuss in detail about bio control mechanism of pathogens using siderophore.

   (or)

   Give an account on Bt cotton.
4. .Explain in detail about the development of virus resistant plants.

   (or)

   Discuss about the various valuable compounds of micro algae.
5. Write in detail about various Indian Patent Laws.

   (or)

   Describe in detail about Human Gene Therapy.

SECTION C

3X10=30

ANSWER ANY THREE

1. Describe about different HIV therapeutic agents.
2. Explain about the downstream processing of Riboflavin.
3. Give a detailed account on types and mode of action of Antibiotics.
4. Explain in detail about the development of insect and stress resistant plants.
5. Briefly explain about various molecular diagnostic methods for genetic diseases.

II Msc - Medical Microbiology

I. Answer All Questions 10 X 2 - 20

1. Normal microbial flora - Define
2. What is Carriers
3. Mantoux tuberculin test - Define
4. Cholera red reaction - define
5. What is MDR
6. What is payer's patches
7. Cryptococcosis - Define
8. Reverse Transcriptase function
9. Define ASO
10. What is Superbugs.

II Answer All Questions 5x8=40

11. a. Write about classification of medically important microbes

b. Write in detail about nosocomial infection

12. a. Explain about Kirby-Bauer disk diffusion method

b. Write about leptospirosis

13. a. Describe about Cutaneous mycoses

Write about Antifungal Susceptibility testing

14. a. Comment on yellow fever

b. Explain in detail about Influenza Virus

15. a. Write about Ascaris lumbricoides

b. Explain about the pathogenesis of Entamoeba histolytica

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III/ Answer Any Three 3x10=30

16. Discuss about Normal microbial flora of human body

17. Explain in detail about Staphylococcus aureus

18. Write the replication, pathogenesis, diagnosis of Hepatitis

19. Describe about MDR, XDR, fungal pathogens and Subcutaneous

20. Explain about Superficial mycosis

II MSc - Medical Microbiology

I. Answer All Questions

10 X 2 = 20

1. Define Gnotobiotic
2. Pandemic - define
3. Dick test - Define
4. Weil's disease
5. What is Negribodies
6. What is Trophozoite, cyst
7. Define : Kirby - Bauer disk diffusion method
8. What is poliomyelitis
9. Define - XDR
10. Candidiasis - Define

II Answer All Questions 5x5-25

11. a. Explain about Sources, Types of Opportunistic & Community acquired infection.

b. Write about Zoonotic disease

12. a. Explain in detail about Enteric fever

Write a note on Cholera

13. a. Write about medically important fungi

b. Brief note on Cryptococcus neoformans

14. a. Explain about the pathogenesis of poliomyelitis

b. Write the Replication of HIV Virus

15. a. Brief note on Giardia Lamblia

b. Write the pathogenesis of Taenia Solium

III Answer Any Three 3x10-30

16. Explain in detail about Mycobacterium tuberculosis

17. Write in detail about Rabies

18. Write the pathogenesis of Staphylococcal infec

19. Brief note on opportunistic mycoses

20. Discuss about plasmodium Vivax.