DEPARTMENT OF MICROBIOLOGY

URUMU DHANALAKSHMI COLLEGE

KATTUR, TRICHY – 19.

Class - M.sc – 1 year

Subject – Environmental and Agricultural Microbiology

Part A

1)Write any two air borne disease that are caused by bacteria

2)What is the main source of carbon?

3)Define sewage and give the example of sewage microorganisms.

4) Explain eutrophication

5)Differentiate biodegradation and biotransformation?

6)Write the step vice process of cellulose biodegradation.

7) Define phyllosphere.

8)What is biological nitrogen fixation and what are the organisms which involved in this process.

9)Define microbial pesticide

10) What is chemical pesticide and write the disadvantages of its.

Part B

11) a) What is aerobiology and write the significance of air microflora.

or

b) Elaborate iron cycle

12) a) Write the short notes on small scale sewage treatment

or

b) Discuss the solid waste treatment.

13) a) Briefly explain bioremediation and its types.

or

b) Describe Xenobiotic

14) a) Explain rhizosphere

or

b) Write the application of bio fertilizer in agriculture

15 a) Write the plant pathogens that are belongs to bacteria and fungi

or

b) Write the advantages and disadvantages of chemical pesticides

Part C

16) Write the essay about airborne disease.

17) Give an account on sewage treatment.

18) What is biodegradation and explain biodegradation of complex polymers?

19) Give the detailed information of microbial association with different parts of plants.

20) Write the essay about types, mechanisms, advantages of microbial pesticides.

Sub Code : P16MB21 **Set: I**

URUMU DHANALAKSHMI COLLEGE

TIRUCHIRAPPALLI – 620 019

M.Sc. Degree Examination, April 2020

Department : MICROBIOLOGY

Semester : II

Subject Title : MICROBIAL PHYSIOLOGY

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

SECTION-A (10×2=20)

Answer **ALL** the questions,

1. Pili.
2. S-layer.
3. Log phase.
4. Psycrophile.
5. BGA.
6. Heterotroph.
7. Anabolism.
8. Pyruvic acid.
9. Dormancy .
10. Germination.

SECTION-B (5×5=25)

Answer **ALL** the questions.

1. a) Describe the structure of peptidoglycon.

(or)

2. Brief note on cytoplasmic membrane .
   a) Comment on different phases of growth curve .

(or)

   b) Write a note on physiological adaptation of thermophiles .
3. a) Brief note on photosynthetic bacteria.

(or)

   b) Comment on phycobilliprotein.
4. a) Write short note on oxygenic photosynthesis.

(or)

   b) Give an account on glycolysis.
5. a) Describe the endospore structure.

(or)

   b) Discuss in detail about and germination process in bacteria.

SECTION-C (3×10=30)

Answer any **THREE** questions.

6. Elaborate study on biosynthesis of peptidoglycon.
7. Write a detailed note on factors affecting the microbial growth.
8. Detailed study on chlorophylls .
9. Discuss the Calvin cycle.
10. Elaborate study on sporulation and morphogenesis in algae.

Sub Code : P16MB21 **Set:II**

URUMU DHANALAKSHMI COLLEGE

TIRUCHIRAPPALLI – 620 019

M.Sc. Degree Examination, April 2020

Department : MICROBIOLOGY

Semester : II

Subject Title : MICROBIAL PHYSIOLOGY

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

SECTION-A (10×2=20)

Answer **ALL** the questions,

1. Fimbriae.
2. Passive transport.
3. Lag phase.
4. Thermophile.
5. Myxotroph.
6. Carotenoids.
7. Catabolism.
8. Fermentation.
9. Cell division .
10. Morphogenesis.

SECTION-B (5×5=25)

Answer **ALL** the questions.

1. a) Describe the structure of teichoic acid.

(or)

b) Brief note on exopolysaccharides .

2. a) Comment on synchronous growth .

(or)

b) Write a note on physiological adaptation of thermophiles .

3. a) Brief note on heterotroph.

b) Comment on carotenoids.

(or)

4. a) Write short note on anoxygenic photosynthesis.

(or)

b) Give an account on reverse TCA cycle.

5. a) Briefly note on properties of endospore.

(or)

b) Discuss in detail about and germination process in bacteria.

SECTION-C (3×10=30)

Answer any **THREE** questions.

6. Elaborate study on facilitated diffusion.
7. Write a detailed note on various phases of growth curve.
8. Discuss about the Bacteriochlorophylls and Rhodopsin .
9. Give an account on TCA cycle.
10. Elaborate study on sporulation and morphogenesis in bacteria.

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KATTUR, TRICHY – 19.

Class - M.sc – 1 year

Subject – Environmental and Agricultural Microbiology

Part A

1)Define biogeochemical cycle

2) What is the use of iron in the biological things?

3) Differentiate moderate and extreme barophiles.

4) Explain eutrophication

5) What is biotransformation?

6) How can you differ in situ and ex situ bioremediation?

7) Define phyllosphere.

8)What is biological nitrogen fixation and what are the organisms which involved in this process.

9) What is microbial pesticide and what are advantages of its.

10) What is chemical pesticide and what are advantages of its.

Part B

11) a) Briefly explain airborne disease

or

b) Elaborate Carbon cycle

12) a) Write the short notes on small scale sewage treatment

or

b) Explain BOD and COD

13) a) Define and explain Bioleaching

or

b) Write the preparation and use of panchakavya

14) a) Explain mycorrhizae

or

b) Write the application of bio fertilizer in agriculture

15 a) Write the plant pathogens that are belongs to bacteria and fungi

or

b) Write the advantages and disadvantages of chemical pesticides

Part C

16) Give an account on nitrogen cycle.

17) Write the essay about large scale sewage treatment.

18) Briefly explain biodegradation.

19) Write the notes on biological nitrogen fixation and briefly explain what are the genes involved in this process.

20) Explain microbial pesticides.