

22P218

(Pages: 2)

Name: .....

Reg.No: .....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2023**

(CBCSS - PG)

(Regular/Supplementary/Improvement)

**CC19P ESC2 C08 - ENVIRONMENTAL MICROBIOLOGY AND BIOTECHNOLOGY**

(Environmental Science)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

**Part-A**

Answer any *four* questions. Each question carries 2 weightage.

1. Where does one find methanogens? Discuss their ecological and practical importance.
2. What are point and nonpoint pollution? Give examples.
3. What is biosorption? Explain.
4. Which are the different types of vermicompost?
5. What is the difference between PHA and PHB?
6. What are the disadvantages of membrane bioreactors?
7. Why desulphurization of coal is needed?

**(4 × 2 = 8 Weightage)**

**Part-B**

Answer any *four* questions. Each question carries 3 weightage.

8. How are bacteriophages used in phage typing? Discuss the advantages of phage typing technique?
9. Explain the concept of indicator organisms in Environmental Microbiology.
10. Describe the fate of Genetically engineered microorganisms in the environment.
11. What are trickling filters? Explain its applications.
12. What is germplasm? Why germplasm is important in biodiversity aspect?
13. What is meant by ecological engineering? Why is it important?
14. What is rhizofiltration? Explain.

**(4 × 3 = 12 Weightage)**

### **Part-C**

Answer any *two* questions. Each question carries 5 weightage.

15. Summarize the advantages of using each major group of characteristics in classification and identification of microorganisms.
16. Explain the role of soil microorganisms in biodegradation of herbicides and pesticides.
17. What is the importance of biogeochemical cycles in nature? Explain.
18. How are biosensors used for environmental monitoring?

**(2 × 5 = 10 Weightage)**

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