

M.Sc. (Micro) Semester - 3 (CBCS) Examination**Oct/Nov-2022 (NEW COURSE)****Ecology and Environmental Microbiology (Elective (New))****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

SECTION-I**Q.1 Answer the following**

- A. Describe the community structure and its attributes with example. **07**
B. Explain the abiotic interactions. **07**

OR

- Q.1 Explain different types of species interactions and discuss interspecific competition in detail. **14**

Q.2 Answer the following

- A. Explain the terrestrial biomes in biogeography. **07**
B. Discuss different approaches towards biodiversity management. **07**

OR

- Q.2 Discuss principles, concept and management approach of conservation. **14**

Q.3 Do as direct (any seven)

- 07**
1. Explain marine ecosystems.
 2. Define the term ecotones.
 3. Why r and k selection are important in ecological study? Explain in brief.
 4. Enlist organism involve in the nitrogen cycle and explain its mode of action.
 5. Define the term phytoremediation.
 6. What are trophic levels in the ecological pyramid?
 7. What do you mean by biogeographic zones? Give two example.
 8. What is concept of metapopulation? Explain why it is important from ecological viewpoint.

SECTION-II

- Q.1 Discuss the bioremediation of xenobiotic compounds explaining any one with its degradation pathway. **14**

OR**Q.1 Answer the following**

- A. Describe the treatments and possible management of pharmaceutical effluent. **07**
B. Explain the principle and concepts of bioaugmentation and biostimulation in pollution control. **07**

- Q.2 Explain chemical, biological and molecular monitoring methods used for environmental pollutants. **14**

OR**Q.2 Answer the following**

- A. Discuss the integrated waste management systems in detail. **07**
B. Describe biosurfactants and biofertilizers as environmental friendly technology. **07**

Q.3 Do as direct (any seven)

- 07**
1. What are the major components presents in dairy effluent?
 2. Enlist the types of biosurfactants.
 3. Explain in brief "biofuel as a renewable source of energy".
 4. Explain MEOR in brief.
 5. What are the advantages of biogas?
 6. Give the examples of pesticide degrading organisms.
 7. Why EIA is important in environmental context?
 8. Define the term biosorption.
