

Microbiology

[P.G.]

M.Sc. Fourth Semester End Examinations-2024

[Regular & Supplementary Paper]

PAPER- MCB 401

[Ecology and Environmental Microbiology]

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[Use separate answer script for each group]

Group-A

(Ecology)

F.M - 20

1. Answer any two questions from the following: 2x2= 4
- a. Differentiate mutualism and commensalism. 2
 - b. State the difference between ecotone and edges. 2
 - c. What is hotspot? Give example. 1+1
 - d. How ecosystem follow the two laws of thermodynamics? 2

(2)

2. Answer any two questions from the following: **2x4= 8**
- a. Write a note on stability of ecosystem with examples. 4
 - b. What do you mean by co-evolution? Write its importance. 2+2
 - c. Write a note on different approaches of conservation of wild life. 4
 - d. Write about r-selection and k-selection. 4
3. Answer any one question from the following: **1x8= 8**
- a. What are biomes? Classify biomes and write a note on Tundra biome. 2+2+4
 - b. What do you mean by density dependent and density independent mechanism of population regulation? 8

Group-B

(Environmental Microbiology)

F.M - 20

1. Answer any two questions from the following: **2x2= 4**
- a. What are aerosols and bioaerosols? 1+1
 - b. How marine microbes remediate the oil spill? 2
 - c. Write name and causative agent of two common microbial disease of fish. 1+1
 - d. What is microbial deterioration of stone and monument? 1+1

(3)

2. Answer any two questions from the following: **2x4= 8**
- a. What is Biosafety? Write about different Biological safety Levels. 1+3
 - b. Write the importance of marine microbes. 4
 - c. What is Eutrophication? Write the cause of Eutrophication. 1+3
 - d. What do you mean by potability of water? Write the significance of microbes in water quality. 1+3
3. Answer any one question from the following: **1x8= 8**
- a. What is extremophiles? Write the molecular adaptation of extremophiles in different habitat. 2+6
 - b. Define bioaugmentation and Bioremediation? Write the secondary and tertiary process of sewage treatment. 2+3+3
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