

Seat No. : _____

MF-101

April-2025

B.Sc., Sem.-V

MI-305 : Microbiology (Environmental Microbiology)

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) Draw figures wherever necessary.
(3) Mention correct question number against the answer.
(4) Figures to the right indicate marks.

1. List various microbial habitats and discuss environment of soil and water as microbial habitat. 14

OR

1. (A) Write a note on Biofilms as microbial mats. 7
1. (B) Describe the movement of Micro-organisms between Ecosystems. 7

2. Explain symbiotic nitrogen fixation by micro-organisms. 14

OR

2. (A) Write a note on Rumen Ecosystem. 7
2. (B) How does soil micro-organisms involve in production and utilization of greenhouse gases ? Explain. 7

3. Explain the role of micro-organisms in degradation of Alkyl benzyl sulphonates compounds. 14

OR

3. (A) Write a note on Composting. 7
3. (B) Discuss anaerobic sludge digestion as waste water treatment. 7

4. Discuss Microbially enhanced oil recovery. **14**

OR

4. (A) What are Acidophiles ? Discuss their role in bioleaching of copper. **7**

4. (B) Write a note on Microbial Pesticides. **7**

5. Answer in short : (Any **seven**) **14**

(1) Define : Community.

(2) Define : Halophiles. Write one example.

(3) What is Ecosystem ?

(4) Write two examples of Greenhouse Gases.

(5) Mention two examples of cellulose degrading bacteria.

(6) Give full form of AMD. Name any one micro-organism responsible for it.

(7) Give two advantages of activated sludge process.

(8) Define : Biomagnification.

(9) Write names of two bioindicators of pollution.

(10) Give two examples of biodegradable plastics.

(11) Write two advantages of biofuels over conventional fuels.

(12) Give two examples of petroleum hydrocarbon degrading microbes.
