

A-576

Total Pages : 3

Roll No.

EVS-507

**ENVIRONMENTAL MICROBIOLOGY
AND BIOTECHNOLOGY**

M.Sc. Environmental Science (MSCES)

2nd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

Long Answer Type Questions 2×19=38

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. What is meant by environmental biotechnology? Write note on the applications of environmental biotechnology.

2. Discuss about environmental release of GEOs and its consequences. What are the ethical issues of safety of GEOs.
3. Describe the process of Biodegradation of solid waste and toxic pollutants.
4. Write down the distribution, characteristics, diversity and ecological significance of microbes.
5. What are Xenobiotics and Recalcitrant compounds ? Give an account on their presence, transfer and interaction with community.

Section–B

Short Answer Type Questions 4×8=32

Note :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Describe the microbiology of biological treatment process
2. Describe briefly the mechanism of detoxification.
3. What do you understand by toxicants and toxicity ? Discuss the factors influencing toxicity.
4. Compare the difference between prokaryotic and eukaryotic cells with the help of well labelled diagram.
5. Explain growth phases of microbes.

6. Explain various treatment techniques of drinking water and its limitations.
7. Write down the characteristics of protists and viruses.
8. Write short note on (any *two*) of the following :
 - (a) Plasmid in ecosystem
 - (b) Ecotoxicology
 - (c) Chromosomes
 - (d) Cloning
