K-781

Total Pages : 3 Roll No. .....

EVS-507

Environmental Microbiology and Biotechnology

M.Sc. Environmental Science (MSCES)

2nd Semester Examination, 2023 (Dec.)

Time : 2 Hours] **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)

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.

(2×19=38)

1. What do you understand from Aquatic Microbiology? Describe the aquatic ecosystem & its type in detail.

2. Explain Recombinant DNA Technology.

3. What is Genetic engineering? Describe about GEOs (GMOs), their survival, significance and applications.

4. What is detoxification of pollutants? Describe the mechanism of detoxification and degradation of highly concentrated toxic pollutants.

5. Write an essay on Solid waste management.

SECTION–B
(Short Answer Type Questions)

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. (4×8=32)

1. Write a note on ecological significance of microbes.

2. Discuss briefly the environmental applications of biotechnology.

3. Discuss briefly about gene transfer in aquatic, terrestrial and specific ecosystem.

4. What is microcosm? Discuss its role and designing.

5. Write about nucleic acids and its replication.

6. What is mutation? Describe the construction of microbial strains.

7. Define ecotoxicology. Discuss about toxicants, toxicity and factor influencing toxicity.

8. Write a short note on (any *two*) :

(a) MPN index.

(b) Biofertilizers.

(c) Indicator organisms.

(d) Characteristics of viruses.
