



Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: Jan. 2022
Faculty: Science and Technology

Program: B. Sc. General
Program (Specific): Microbiology
Class: F. Y. B. Sc.
Name of the Course: Introduction to Microbial World
Paper: I

Semester: I

SET: A
Course Type: Core
Max. Marks: 35
Course Code: 22-MB-111
Time: 2Hr

Instructions to the candidate:

- 1) There are 4 sections in the question paper. Write each section on separate page.*
- 2) All Sections are compulsory.*
- 3) Figures to the right indicate full marks.*
- 4) Draw a well labelled diagram wherever necessary.*

SECTION: A

Q1) Answer the following questions:

5 M

I) Define Eutrophication.

II) Which of the following character is common to viruses and bacteria
.....(Choose the correct option)

- | | |
|--------------------------|-------------------------------------|
| a) Binary fission | c) Nucleic acid as genetic material |
| b) Ribosome in cytoplasm | d) Have their own metabolites |

III) Proteinaceous particles causing infection in animals and humans are called as
.....

(Choose the correct option)

- | | |
|-----------|-------------|
| a) Prions | c) Viroid |
| b) Virus | d) Bacteria |

IV) Mycorrhizae are an examples of symbiotic association between plants and fungi. (State whether true/False)

V) All Microbes are Pathogens. (State whether true/False)

Q2) Answer any FOUR of the following

4 M

- I) Define antibiotics.
- II) Explain the term abiogenesis.
- III) Distinguish between algae and fungi.
- IV) Comment on applications of algae.
- V) Write characteristics of archaeobacteria.
- VI) Diagrammatically represent 3-Domain system of classification.

SECTION: B

Q3) Answer any FOUR of the following

8 M

- I) Explain with the help of examples the term 'normal flora'.
- II) Differentiate between Primary, Secondary and Tertiary processes of Sewage treatment.
- III) Discuss classification based on 5- Kingdom system.
- IV) Define rDNA technology.
- V) Diagrammatically represent Louis Pasteur's Swan neck experiment.
- VI) Describe Francesco Redi's experiment of biogenesis.

SECTION: C

Q4) Answer any FOUR of the following

8 M

- I) Justify the statement: Biofertilizers are better than chemical fertilizer.
- II) Write four advantages of fermented foods.
- III) Explain contribution of Joseph Lister in the field of surgery.
- IV) Diagrammatically represent Tyndall's experiment.
- V) What is phagocytosis? Explain with the help of a diagram.
- VI) Classify viruses as per ICTV nomenclature.

SECTION: D

Q5) Answer any TWO of the following

10 M

- I) Differentiate between Active and Passive immunization.
- II) Explain Winogradsky's column with the help of a diagram and write its uses.
- III) Explain bioremediation with the help of a diagram and state its types.
- IV) Classify viruses based on – Nucleic acid composition, symmetry, host range, site of replication and mode of transmission.