



B.Sc. (Semester – VI) Examination, April/May 2019
BOTANY (Paper – XV)
Microbiology and Plant Pathology

Duration : 2 Hours

Total Marks : 80

Instructions : 1) **All questions are compulsory.**

2) **Figures to the right indicate maximum marks assigned to the question.**

3) **Draw appropriate labelled diagram wherever necessary.**

1. Answer **any four** of the following. 16

- i) State the characteristic features of Archaeobacteria.
- ii) Explain physical conditions required for obtaining pure cultures.
- iii) Describe the structure of T_4 bacteriophage.
- iv) Name any four bacterial plant disease symptoms and state its characteristics.
- v) Discuss physiological defense mechanisms in plants.
- vi) Comment on monocyclic and polycyclic epidemics.

2. Answer **any four** of the following. 16

- a) Write a note on plasmids.
- b) What are biopesticides ? Explain in brief any two biopesticides.
- c) Write briefly on induced resistance in plants.
- d) Explain different role of microorganisms in biogeochemical nitrogen cycle.
- e) Explain the various steps involved in the production of vinegar.
- f) State the importance of capsule and cell wall in bacteria.

3. A) Explain characteristic features of virus. 6

OR

A) With the help of a labeled diagram, describe a typical eukaryotic cell. 6

B) Explain the types of mycorrhizae and give their importance in forestry. 6



4. A) Give an account of Prions. 6
- OR
- A) Explain the phases of bacterial growth in a batch culture. 6
- B) Define secondary metabolites and write the importance of microorganisms in its production. 6
5. A) Explain any three methods of disease transmission in plants. 6
- OR
- A) Define virulence and add a note on gene for avirulence. 6
- B) Briefly explain the immunological technique in detection of plant diseases. 6
6. A) Write a note on computer programme used in diagnosis of plant diseases. 6
- OR
- A) Briefly describe the chemical methods used in plant disease management. 6
- B) Write briefly on plant disease forecasting. 6