

Time – 3 hr.

- N.B.**
1. All questions are compulsory.
 2. Draw neat labelled diagrams wherever necessary.
 3. All questions carry equal marks.

- Q.1 Attempt any two** 20
- a Describe general characters of Protozoa and Algae as microbes.
 - b What is sterilization? Explain in detail any two methods of sterilization.
 - c Write a detail note on colony characters exhibited by bacteria.
 - d Explain method of commercial production of alcohol.
- Q.2 Attempt any two** 20
- a Describe in brief sexual reproduction in *Batrachospermum*.
 - b Give systematic position of *Polysiphonia*. Add a note on the thallus structure of *Polysiphonia*.
 - c Give an account of asexual reproduction in *Vaucheria*.
 - d Explain the general characters of Bacillariophyta.
- Q.3 Attempt any two** 20
- a Explain the life cycle of *Puccinia* on the primary host.
 - b Give an account of general characters of basidiomycetes.
 - c Give a detailed account of Spore structure of deuteromycetes.
 - d Discuss the section of the gill in *Agaricus*. Add a note on its systematic position.
- Q.4 Attempt any two** 20
- a Give causal organism, symptoms, predisposing factors, disease cycle and control measures of 'Damping off' disease.
 - b Describe chemical control methods of plant diseases.
 - c Write in detail the symptoms, causal organism, disease cycle and control measures of 'White rust disease'.
 - d Give causal organism, symptoms, disease cycle and control measures of 'Citrus canker'.
- Q.5 Write short notes. (Attempt any four)** 20
- a Streak plate method
 - b Systematic position of *Pinnularia*
 - c Pigments and reserved food material of Xanthophyta
 - d Systematic position of *Alternaria*
 - e Control measures of Tikka disease
 - f Aecium of *Puccinia*