

2071

B.A./B.Sc. (General) Second Semester

Bio-Technology

Paper - BIOT-Elect-Sem-II-T: Foundation of Biotechnology

Time allowed: 3 Hours

Max. Marks: 67

**NOTE:** Attempt five questions in all, including Question No. IX (Unit-III) which is compulsory and selecting two questions from each Unit.

x-x-x

UNIT - I

- I. a) Explain the characteristic features of eubacteria.  
b) What is the difference between synchronized and continuous growth? (8,7)
- II. a) Explain the structure of bacteria.  
b) State the differences between gram positive and gram negative bacteria.
- III. a) What are reducing sugars? Give examples. (8,7)  
b) Write a note on sphingolipids.
- IV. a) What are structural polysaccharides? Give examples.  
b) Write the chemical properties of fatty acids. (8,7)

UNIT - II

- V. a) Explain the hierarchy in protein structure.  
b) What are contractile proteins? Give examples. (8,7)
- VI. a) Explain Michaelis Menton equation.  
b) What are immobilized enzymes? (8,7)
- VII. a) Explain the steps in preparation of sample for electron microscopy.  
b) Write three applications of infrared spectroscopy. (8,7)
- VIII. a) Write a note on autoradiography.  
b) What is Southern blotting? Explain. (8,7)

P.T.O.

UNIT - III

IX. Attempt the following:-

- a) Give two examples of secondary metabolites.
- b) What are fatty acids?
- c) Draw the structure of two polar amino acids.
- d) What is Lambert Beer's law?
- e) What is Rayleigh scattering?
- f) What is scintillation cocktail?
- g) What is the dead time of the counter?

(7×1)

x-x-x