

1059  
B.Sc. (Hons.) Bio-Informatics  
Fourth Semester  
BIN-4003: Cell Biology and Microbiology

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following briefly:-

- a) Nucleoplasm
- b) Lysosomes
- c) Endospores
- d) Virus
- e) Golgi bodies
- f) Passive transport
- g) Growth curve
- h) Protozoa

(8x1½)

**UNIT – I**

- II. a) Write a note on Cell structure. Draw a well labeled diagram.
- b) Explain the structure and functions of Chloroplast with a diagram. (2x6)
- III. Discuss the organization and chemical composition of the plasma membrane. Draw a labeled diagram. (12)
- IV. a) What is the role of cytoskeletal elements?
- b) Differentiate between the rough and smooth endoplasmic reticulum and correlate the structure with the function. (2x6)

**UNIT – II**

- V. a) Write a note on the history of microbiology.
- b) Describe the current classification of Bacteria. (2x6)
- VI. a) Discuss the significance of the process of bacterial conjugation and sporulation.
- b) What is the role of generation time in bacterial growth? (8,4)

P.T.O.

(2)

- VII. a) What are the factors affecting bacterial growth?
- b) Differentiate between Algae and Fungi on the basis of morphology and cell structure. (6x6)

x-x-x