

2072

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. Answer the briefly:-

- a) RER
- b) Thylakoids
- c) Viral capsid
- d) Protozoa
- e) Nucleoplasm
- f) Endospores
- g) Cristae
- h) Transduction

(8x1½)

UNIT - I

- II. a) Write a note on the organization of the Fluid Mosaic model. Draw a well labeled diagram.
- b) Explain the role of Mitochondria in energy generation in the cell. (2x6)
- III. a) Why is the plasma membrane called a semi permeable membrane? Discuss the significance of the same.
- b) Discuss the role and significance of the microtubules and intermediate filaments in the cell. (2x6)
- IV. a) What are nuclear pores? Explain their role with a well labeled diagram.
- b) Elaborate on the role of Golgi bodies in protein trafficking. (2x6)

P.T.O.

(2)

UNIT - II

- V. a) Write a note on the fundamentals of microbiology.
b) Discuss the microbial phylogeny of bacteria. (2x6)
- VI. a) Describe the morphology and cell structure of Fungi.
b) Explain the significance of conjugation in sexual reproduction in bacteria. (2x6)
- VII. a) Differentiate between prokaryotic and eukaryotic cells.
b) How do bacteria tide over unfavorable conditions? (2x6)

x-x-x