

1056
B.A./B.Sc. (General) Fourth Semester
Bio-Chemistry
Paper – B: Membrane Biochemistry

Max. Marks: 36

Time allowed: 3 Hours

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

x-x-x

I. Attempt the following:-

- a) Draw and label a phospholipid. Show the hydrophobia and hydrophilic region.
- b) Why is plasma membrane called 'differentially permeable'?
- c) Define diffusion giving an example.
- d) How does Facilitated transport differ from simple diffusion across the cell membrane? (4x1)

UNIT - I

- II. Compare and contrast the constituents of biological membranes in prokaryotes and eukaryotes. (8)
- III. Briefly explain the fate of the Red Blood Cell when placed in an Isotonic, Hypotonic and Hypertonic solution. (8)

UNIT - II

IV. Define the following explaining their function:-

- a) Lonophores (8)
- b) Siderophores

V. Explain why the Na-K ATPase and the Ca-ATPase carry out transport in one direction only. (8)

UNIT - III

- VI. What are liposomes? How are they characterized? (8)
- VII. How is the transbilayer distribution of membrane components probed? (8)

UNIT - IV

VIII. Comment briefly on the following:-

- a) Coated vesicles (4,4)
- b) Erythrocyte deformities

IX. What is the signal hypothesis of membrane biogenesis? (8)

x-x-x