Exam.Code:0432
Sub. Code: 3450

2072

M.Sc. (Applied Chemistry/Pharmaceutical) Second Semester

Paper – 204: Biophysical Chemistry

Time allowed: 3 Hours Max. Marks: 60

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

x-x-x

I. Answer the following:-

a) What do you know about denaturation of biomolecules?

b) Give a brief view of nerve conduction.

c) What is Rayleign scattering?

d) What do you know about osmosis pressure and its significance? (4x3)

UNIT – I

II. a) Describe protein folding problem in detail.

b) Explain statistical view of distribution of macromolecules in chain configuration of various macromolecules. (6,6)

III. Explain the following:-

a) Role of standard free energy change in a biochemical reaction

b) Hydrolysis of ATP

c) Polypeptides and protein structure (3x4)

UNIT – II

IV. Describe in detail:-

a) Muscular contraction

b) Energy generation in biochemical system (6,6)

V. a) Give a detailed view of ion transport through cell membrane.

b) Give a detailed note on irreversible thermodynamic treatment of membrane transport. (6,6)

UNIT – III

VI. a) How viscosity can be measured experimentally? Describe the relation of viscosity with geometry and thermodynamic property.

b) Explain zonal electrophoresis in detail. (6,6)

P.T.O.

VII. Explain the following:-

a) Diffusion coefficient

b) Drug absorption

c) Density gradient sedimentation (3x4)

UNIT – IV

VIII. a) How Debey Huckle theory of solubility of biomolecules be applied to protein purification? Explain.

b) Describe fundamental concepts of light scattering. (8,4)

IX. a) How can you stabilize biomolecular in solution? Explain.

b) What are reverse micelles and liquid membranes? (6,6)

x-x-x