

AQ-946

**M.Sc. (Part-I) Semester-II (CBCS Scheme)  
Examination**

**PHARMACEUTICAL CHEMISTRY**

**Paper-VII 2 SA 3**

**(Biophysical Chemistry)**

Time : Three Hours]

[Maximum Marks : 80

**Note :-** (1) **ALL** questions are compulsory and carry equal marks.

(2) Use of log table and calculator is allowed.

1. (a) Explain concept of proton mobility. 8
- (b) Discuss about dipole-dipole interaction and hydrophobic interaction. 8

**OR**

- (p) Explain why water acts as a good solvent ? 8
  - (q) Discuss intermolecular interactions effecting conformation of biomolecules. 8
2. (a) Explain concept of hydrolysis of ATP. 5
  - (b) Discuss polypeptide and protein structure. 6
  - (c) Explain protein folding problem. 5

**OR**

- (p) Explain synthesis of ATP from ADP. 8
- (q) Discuss standard free energy change in biochemical reactions with suitable example. 8

3. (a) Discuss energy generation in mechanochemical system. 8

- (b) Explain osmotic pressure in biopolymer. 8

**OR**

- (p) Discuss in brief about muscular contraction in mechanochemical system. 8

- (q) Explain concept of membrane equilibrium. 8

4. (a) Describe structure and function of cell membrane. 8

- (b) Explain inversible thermodynamic treatment of membrane transport. 8

**OR**

- (p) How ions transfer through cell membrane ? Explain. 8

- (q) Explain concept of nerve conduction. 8

5. (a) How viscosity relate to geometry and correlate with hydrodynamic properties of biopolymer ? 8

- (b) Explain concept of sedimentation equilibrium and density gradient sedimentation in biopolymer. 8

**OR**

- (p) Describe Fick's law of diffusion. Explain the concept of diffusion co-efficient with its interpretation. 8

- (q) Explain osmotic pressure technique for determination of molecular mass and geometry of biopolymer. 8