

B.Pharm II Year I Semester (R15) Regular & Supplementary Examinations November 2017

PHYSICAL PHARMACY – I

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Draw the phase diagram of water and label various parts.
 - Define Snell's law. Describe two applications of refractive index.
 - Explain the term pseudomorphism. Give two examples.
 - Define the term 'thermodynamics', list its applications.
 - Explain limitations of Raoult's law for vapour pressure lowering.
 - Describe the difference between Osmosis and diffusion.
 - State Ostwald's dilution law. What are its limitations?
 - Define buffer and buffer capacity.
 - Write applications of chemical kinetics.
 - What is the difference between 'cool place' and 'cold place', regarding storage of products?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Discuss the factors that affect the energy of interaction between two molecules.

OR

- 3 Explain the phase diagram of one component system with an example. State Gibb's phase rule. Explain the terms involved with definition and example.

UNIT – II

- 4 Describe optical properties in the elucidation of the chemical structure giving two examples. Illustrate the principle, construction, and working of Abbe refractometer.

OR

- 5 State and explain first law of thermodynamics. Derive an expression for maximum work done when an ideal gas expands isothermally and reversibly.

UNIT – III

- 6 Explain modern theories of electrolysis dissociation of strong electrolyte.

OR

- 7 Describe cryoscopic method for the determination of molecular mass of solute.

UNIT – IV

- 8 Describe modern theories of acids and bases. Explain the principle and method involved in the determination of dissociation constant of a substance by solubility method.

OR

- 9 Define a buffer equation for an acid buffer with suitable example. Describe the method for estimating the buffer capacity of solution.

UNIT – V

- 10 Compare first and second order of reactions with respect to the rates and explain the mechanism for their behavior.

OR

- 11 Discuss the methodology of accelerated stability studies. Mention its applications.