5. a) What is common-ion effect? Derive buffer equation for weak acid and its salt. 7

   b) What is degree of dissociation? Write the significance of ionization of drugs. 7

6. a) What are various types of solution? Discuss various ways of concentration expression. 7

   b) What are pharmaceutical buffers? Discuss preparation of buffers and their pharmaceutical applications. 7

7. a) Discuss the mechanism involved in solute-polar solvent interaction in solubilization phenomenon. 7

   b) Define solubility. Discuss various factors affecting solubility of solid in liquid. 7

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PY-111

B.Pharm., I Year I Semester
Examination, December 2015
Choice Based Credit System (CBCS)
Physical Pharmacy - I

Time : Three Hours

Maximum Marks : 70

Note: i)   Total No. of questions in this paper are 7.

ii)   Attempt any five questions. All questions carry equal marks.

1. a) What is polymorphism? Discuss various crystalline states of solid matter. 7

   b) What is ideal gas law? Explain kinetic molecular theory in detail. 7

2. a) Write note on physical properties of molecules. Discuss dipole moment in detail. 7

   b) Write a note on eutectic mixture and solid dispersion with their significance. 7

3. a) Discuss second law of thermodynamics. Write about enthalpy and entropy with its significance. 7

   b) Derive and explain Clausius-clapeyron equation, discussing its importance in pharmacy. 7

4. a) What are colligative properties? Write note on depression of freezing point. 7

   b) Define 'Additive properties' and 'Constitutive properties'. Describe 'dielectric constant' and 'induced polarization' in detail. 7