

FACULTY**B. Pharmacy 3/4 I Semester (Suppl.) Examination, April 2016****Subject : Physical Pharmacy I****Time : 3 Hrs****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) State as laws. Write the ideal as law. How do y determine molecular weihht of as usin as laws. (6)
(b) Explain phase diaram for eutectic mixture. (8)
OR
(c) Write notes on :
(i) X ray diffraction (5)
(ii) Differential scannin calorimetry (5)
(iii) Amorphs solid (4)
- 2 (a) State and explain first and second law of thermodynamics. (6)
(b) Write a note on free energy function and work function and their app lications. (8)
OR
(c) Explain the terms enthalpy, entropy, heat capacity and internal enery. (8)
(d) Write abt heat of combustion and heat of neutralization. (6)
- 3 (a) Define and explain varis methods of expression of (molarity, molality, normal ity, % w/w and w/v). (8)
(b) Write a note on Sorenson's pH scale. (6)
OR
(c) What are colliative properties? Explain elevation of boilin point as colliative property. How do y calculate molecular weihht usin the same? (7)
(d) Explain and derive an equation for ionization of weak acid. (7)
- 4 (a) What is buffer capacity? Write the equations for buffer capacity and maximum buffer capacity. (7)
(b) Explain the relationship between pH and solubility. (7)
OR
(c) Explain white Vincent method for adjustin isotonicity. How do y render 30ml of 1% solution of procaine hydrochloride isotonic with body fluid. (sodium chloride equivalent of procaine hydrochloride is 0.21). (7)
(d) Write a note on physioloical buffers. (7)
- 5 (a) Write abt different types of catalysts and catalytic reactions. (8)
(b) Explain the workin of pH meter. (6)
OR
(c) Discuss the principles and workin of :
(i) Hydroen electrode (7)
(ii) Oxidation reduction electrode (7)
