Code No. 4225

FACULTY

B. Pharmacy 3/4 I Semester (Suppl.) Examination, April 2017

Subject : Physical Pharmacy I

Time : 3 Hrs **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1 (a) State and explain ibbs phase rule. Explain the phase diaram for one component system. (9)
(b) Write abt differential scannin calorimetry and its applications in pharmacy. (5)

OR

(c) Discuss abt polymorphism and its applications in pharmacy. (7)
(d) State the postulates of kinetic molecular theory of ases and explain Vander Walls equation for real ases. (7)

2 (a) State and explain law of conservation of enery. (5)
(b) Derive expressions for isothermal reversible expansion of an ideal as and maximum work done in reversible expansion. (5)
(c) Write a note on ibbs free enery. (4)

OR

(d) Explain specific heat, sensible heat and latent heat. (6)
(e) Define free enery. Write abt free enery function and its applications. (8)

3 (a) What are colliative properties? Explain determination of freezin point depression and its application. (8)
(b) Explain the importance of activity and activity coefficients. (6)

OR

(c) Define molarity, molality and normality. Explain in which situations these expressions are useful. (4)
(d) Derive the equation for ionization of a weak acid and write abt ampholytes. (6+4)

4 (a) Derive Henderson Hassel balch buffer equation for a weak acid and its salt. (7)
(b) Write a note on pharmaceutical and physioloical buffers. (7)

OR

(c) What is buffer capacity? Write the equations for buffer capacity and maximum buffer capacity. (4)
(d) What is isotonicity? What are the varis methods of adjustin isotonicity. A solution contains 1.0 cphedrine sulphate in 100ml. What quantity of sodium chloride must be added to make the solution isotonic (sodium chloride equivalent of ephedrine sulphate is 0.23).. (1+5+4)

5 (a) Discuss the construction and workin of a lass membrane electrode. (7)
(b) Write abt the method of determinin the emf of a cell usin potentiometer. (7)

OR

(c) Mention varis types of electrodes with exampl es includin the cell reaction representation. (7)
(d) Write abt the importance of applications of oxidation reductions in pharmacy. (7)

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