Code No. 13105 / PCI

FACULTY OF PHARMACY

B. Pharmacy III – Semester (PCI) (Main) Examination, February 2019

Subject : Physical Pharmaceutics – I

Time : 3 hours **Max. Marks : 75**

Note : Answer all questions from Part-A. Any Two questions from Part-B and any Seven questions from Part-C.

PART-A (10 x 2 = 20 Marks)

1 Define and explain
   a) CMC b) Contact angle
2 Write about liquid crystalline state and it's applications.
3 Write applications of buffers in pharmacy.
4 Define and explain any two solubility expressions.
5 Give principle of HLB value and it's significance.
6 Define a) Dissociation constant b) Dielectric constant
7 What is a buffer? What are its uses? Give examples.
8 Explain the process of detergency.
9 Differentiate between physical adsorption and chemisorption.
10 Define and explain the uses of surface active agents.

PART-B (2 x 10 = 20 Marks)

11 What is polymorphism? Explain it's applications giving suitable examples.

12 What is buffer capacity? Derive and explain buffer equation.

13 How the binding of drug to proteins can influence their action? Deduce an equation for scat chard plot for drug-protein interaction.

PART-C (7 x 5 = 35 Marks)

14 Discuss ideal and non-ideal solutions by considering the solvation-association phenomena.
15 Define and explain optical rotation and dipole moment. Write their applications.
16 Describe capillary rise method for determination of surface tension.
17 Define complexation with the help of suitable example. Describe the following
   a) Metal complexes b) Occlusion compound.
18 What is buffer capacity of solution containing 0.2M acetic acid and 0.1M sodium acetate.
19 Explain Gibb's adsorption principle and it's applications.
20 Explain distribution law and it's applications.
21 Discuss the effect of pressure and temperature on solubility of gases in liquid.
22 How do you measure pH using hydrogen electrode?

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