

B.Pharm II Year II Semester (R09) Supplementary Examinations December 2017

**PHYSICAL PHARMACY – II**

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) What are the instability conditions in emulsions and suggest suitable methods to overcome them.  
(b) What are structured vehicles? What different approaches are used in the preparation of stable suspensions?
- 2 (a) What are chelates? Write about their preparation and applications?  
(b) Explain the method of determination of stability constant of a complex by distribution method.
- 3 (a) Define 'Rate', 'Order' and 'Molecularity' of a chemical reaction. Differentiate between Zero and First order reactions with two examples each.  
(b) A solution of glucose in aqueous solution with a concentration of 0.056 Moles/liter found to follow first order decomposition. The concentration after a period of 12 hours was found to  $4.10 \times 10^{-2}$  Moles/liter. Estimate the amount of glucose lost during the period of 24 hours.
- 4 Differentiate between 'absorption' and 'adsorption'. Discuss Freundlich and Gibbs adsorption isotherms. Mention their applications.
- 5 (a) Define the term 'Rheology' and explain non-Newtonian types of flow.  
(b) Discuss the construction and working of cup and bob viscometer. Mention its advantages and disadvantages.
- 6 (a) Enumerate the methods for improving the solubility of solids in liquids with suitable examples.  
(b) State and explain distribution law. What are its limitations?
- 7 (a) Enumerate the methods available for the determination of surface area of powders.  
(b) What are derived properties of powders? Discuss their applications in pharmacy with suitable examples.
- 8 Write short notes on the following:
  - (a) Protective colloid action.
  - (b) Lyophobic colloids.
  - (c) Electrical properties of colloids.

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