

B.Pharm II Year II Semester (R13) Supplementary Examinations May/June 2018

**PHYSICAL PHARMACY – II**

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- Define Henry's law and mention its applications.
  - Give two applications of inclusion complexes in pharmacy.
  - Define zero order reaction and give two examples.
  - Name the methods for stabilization of products against oxidation.
  - Name the methods for determination for HLB value and mention their advantages.
  - Define interfacial tension and name the methods for its determination.
  - Write the advantages of cone and plate viscometer.
  - Define angle of repose and mention its significance.
  - Write about protective colloid action.
  - Define sedimentation parameters.

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 Explain the influence of surfactants, pH and solvents on solubility of drugs.

**OR**

- 3 Give the classification of complexes and write about organic molecular complexes and their applications.

**UNIT – II**

- 4 (a) Derive an equation for calculation of first order reaction rate constant. How first order reaction is different from zero and second order reactions?  
(b) The initial concentration of drug in a solution was found to be 500 units/mL. It was found to contain 300 units/mL after 40 days following first order decomposition. Calculate the time required for decomposing the initial concentration to 250 units/mL.

**OR**

- 5 Explain the prediction of shelf life by using temperature as stress condition.

**UNIT – III**

- 6 Differentiate between 'absorption' and 'adsorption'. Discuss the significance of HLB scale.

**OR**

- 7 Write about electrical properties of interfaces.

**UNIT – IV**

- 8 Write about the methods for determination of surface area.

**OR**

- 9 Write about plastic, pseudoplastic and dilatant systems and their applications.

**UNIT – V**

- 10 Explain the theories of emulsification and instability conditions of emulsions.

**OR**

- 11 What are colloids? Explain their optical and kinetic properties.

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