

**UNIVERSITY OF JAFFNA**  
**BACHELOR OF PHARMACY**  
**SECOND YEAR SECOND SEMESTER EXAMINATION – AUGUST 2017**  
**PHACE 2234 PHARMACEUTICS III – PAPER II**

Date: 28.08.2017

Time: 02 Hours

**ANSWER ALL EIGHT QUESTIONS**

1.
  - 1.1 Describe the
    - 1.1.1 solvation mechanisms of polar solvents. (30 marks)
    - 1.1.2 solubilisation techniques that are used to enhance the solubility of poorly water soluble drugs. (50 marks)
  - 1.2 Explain how particle size of solids affect its dissolution rate? (20 marks)
  
2.
  - 2.1 What is colloidal dispersion? (10 marks)
  - 2.2 Explain different types of colloidal dispersion. (35 marks)
  - 2.3 Explain how electric double layer is formed in the colloidal particles? (55 marks)
  
- 3 Describe the mechanism of
  - 3.1 shear thinning system. (30 marks)
  - 3.2 shear thickening system. (40 marks)
  - 3.3 thixotrophy. (30 marks)
  
4.
  - 4.1 Enumerate the pharmaceutical applications of surfactants. (30 marks)
  - 4.2 Explain the role of surface free energy that affect the stability of pharmaceutical suspensions. (40 marks)
  - 4.3 Explain the process of formation of micelles from surfactants in water. (30 marks)
  
5.
  - 5.1
    - 5.1.1 List the factors that influence the cohesion of powders. (15 marks)
    - 5.1.2 Describe the method used to measure cohesion of powder using Jenike cell. (50 marks)
  - 5.2 Briefly describe the structural features of gels. (35 marks)

- 6.
- 6.1
    - 6.1.1 Briefly explain how auto-oxidation occurs in the pharmaceutical preparations. (50 marks)
    - 6.1.2 Explain how auto oxidation can be prevented? (25 marks)
  - 6.2 Write a note on significance of protein binding. (25 marks)
- 7.
- 7.1 Describe the structure and pharmaceutical applications of cyclodextrins. (60 marks)
  - 7.2 Briefly explain the theories of catalysis. (40 marks)
8. Write an account on
- 8.1 microemulsion. (50 marks)
  - 8.2 pH partition principle for drug transport. (50 marks)

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