# UNIVERSITY OF JAFFNA
# BACHELOR OF PHARMACY
## SECOND YEAR SECOND SEMESTER EXAMINATION - JULY 2015
## PHACE 2202 PHARMACEUTICS III - PAPER II

**Date: 15.07.2015.** **Time: 02 Hours**

**ANSWER ALL EIGHT QUESTIONS**

1.
- 1.1 Briefly explain how colloidal particles acquire charges. (50 Marks)
- 1.2 Describe the electrical double layer of colloidal particles. (50 Marks)

2.
- 2.1 What is coarse dispersion? (10 Marks)
- 2.2 Differentiate flocculated and deflocculated suspensions. (30 Marks)
- 2.3 Describe
  - 2.3.1 the factors causing instability of emulsion. (30 Marks)
  - 2.3.2 how the above instabilities of emulsion can be prevented. (30 Marks)

3.
- 3.1 List the factors that affect the dissolution rate of solids (20 Marks)
- 3.2 Solubility of weak electrolytes is more in the optimum pH. Explain with suitable derivation (50 Marks)
- 3.3 Describe the dissolution of solid based on the Noyes Whitney's Equation (30 Marks)

4.
- 4.1 What is thixotropy? (10 Marks)
- 4.2 Describe the mechanism of thixotropy (30 Marks)
- 4.3 Explain the applications of rheology in pharmacy (60 Marks)

5.
- 5.1 What is surfactant? (10 Marks)
- 5.2 Classify surfactants with examples (20 Marks)
- 5.3 Explain the applications of following in pharmacy
  - 5.2.1 surfactants (30 Marks)
  - 5.2.2 adsorption (40 Marks)

6.
- 6.1 List the factors responsible for the cohesion of powders? (30 Marks)
- 6.2 Describe how cohesion can be quantified? (35 Marks)
- 6.3 Explain how flow properties of powder can be improved? (35 Marks)

7.
- 7.1 Based on the Arrhenius equation how shelf life of pharmaceuticals could be determined. (50 Marks)
- 7.2 Briefly explain the theories of catalysis. (30 Marks)
- 7.3 What is the significance of photochemistry in pharmacy (20 Marks)

8.

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| 8.1 | What is inclusion complex? | (10 Marks) |
| 8.2 | List the different types of inclusion complexes. | (20 Marks) |
| 8.3 | List the various methods used for the analysis of complexes. | (20 Marks) |
| 8.4 | Write a note on cyclodextrin. | (50 Marks) |