

SUBJECT: PHYSICAL PHARMACY - II

Day: Wednesday  
Date: 21/11/2018

W-2018-4082

Time: 02.00 PM TO 05.00 PM  
Max. Marks: 60

**N.B:**

- 1) **Q. No. 1** and **Q. No. 5** are **COMPULSORY**. Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answer to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

**SECTION - I**

- Q.1** Answer **ANY FIVE** of the following: (10)
- a) What is Schulze-Hardy rule?
  - b) Enlist methods to identify the type of emulsion.
  - c) Define HLB. Give Griffin scale for classification of surfactants.
  - d) Suspensions are thermodynamically unstable. Explain.
  - e) Define contact angle. Give its significance.
  - f) Define: i) Gold Number ii) Sedimentation Volume
- Q.2** a) What are adsorption isotherms? Explain. (06)  
b) Write a note on electric double layer. (04)
- Q.3** a) Explain in detail theories of emulsification. (06)  
b) Explain methods used to prepare colloids. (04)
- Q.4** Write short notes on **ANY TWO** of the following: (10)
- a) Donnan membrane equilibrium
  - b) Surfactants
  - c) Kinetic properties of colloids

**SECTION - II**

- Q.5** Answer **ANY FIVE** of the following: (10)
- a) What is crystal habit?
  - b) Enlist methods to determine particle size.
  - c) Classify viscometers.
  - d) Enlist different types of Non-Newtonian flow behavior.
  - e) Define: i) Carr's index ii) Angle of repose
  - f) Give applications of rheology in pharmacy.
- Q.6** a) Explain in detail methods used to determine surface area of a powder. (06)  
b) Add a note on viscoelasticity. (04)
- Q.7** a) Give an account of compaction of powder and methods to evaluate the same. (06)  
b) Write a note on factors affecting powder flow. (04)
- Q.8** Write short notes on **ANY TWO** of the following: (10)
- a) Thixotropy
  - b) Polymorphism
  - c) Compression

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