Seat No: _____ **Enrollment No:_____**

PARUL UNIVERSITY

FACULTY OF PHARMACY

B.Pharm., Winter 2017-18 Examinations

Semester: 3 **Date: 15-12-2017**
Subject Code: 08101203 **Time: 02:00 PM to 05:00PM**
Subject Name: Physical Pharmaceutics **Total Marks: 75**

Instructions:
1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) **(20)**

1. Explain binding forces between molecules and explain one component phase rule system.
2. Describe solubility of liquids in liquids in detail.
3. Enumerate the method for determination of particle size and write down coulter counter method and optical microscopy method in detail.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) **(35)**

1. Draw the flow curves for Newtonian and Non- Newtonian type systems. Give one example of each.
2. Give the principle and working of Capillary Rise method.
3. Explain Electrical properties of Interface.
4. What are colloids? Describe its application in detail.
5. Discuss Thermo Gravimetric Analysis (TGA) and Differential Scanning Calorimetry (DSC).
6. Define Complex Compounds. Enlist the methods of identifying complexes.
7. Give the physical instability in emulsion.
8. Enumerate method for determination of surface area & explain Air permeability method in detail.
9. Enumerate powder derived properties. Describe flow properties in detail.

Q.3 Answer in short. (2 marks each) **(20)**

1. Differentiate flocculated and deflocculated suspensions.
2. Describe types of emulsions briefly.
3. Differentiate lyophilic and lyophobic colloids.
4. Give the principle of Andreasen apparatus.
5. What are HLB and RHLB?
6. Define Ideal and Non-ideal solutions.
7. Define Phase Rule and Polymorphism.
8. What is Thixotropy?
9. What are surfactants? Give examples of anionic and cationic surfactants.
10. Write about Nematic and Smectic crystals.