

GUJARAT TECHNOLOGICAL UNIVERSITY**B.PHARM - SEMESTER– II. EXAMINATION – SUMMER-2016****Subject Code: 2220001****Date: 15/06/2016****Subject Name: Physical Pharmacy****Time: 10:30 AM to 1:30 PM****Total Marks: 80****Instructions:**

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1** (a) Define phase rule. Explain Phase diagram for one component system. **06**
(b) Describe the binding forces of molecules. **05**
(c) Discuss the structure, properties and significance of liquid crystals. **05**
- Q.2** (a) Define solubility. Describe the influence of surfactants on solubility. **06**
(b) State: Henry's law, Bancroft's rule, Schulze-Hardy rule, Ideal gas law, Graham's law. **05**
(c) Explain Polymorphism. **05**
- Q.3** (a) Write a short note on Spreading Coefficient. **06**
(b) Discuss the electric properties of interfaces. **05**
(c) Enlist the methods for determination of surface tension & explain capillary rise method. **05**
- Q.4** (a) Classify the complexes and explain chelates. **06**
(b) Differentiate between lyophilic and lyophobic colloids. **05**
(c) Write applications of drug protein binding in drug activity. **05**
- Q.5** (a) Discuss features and properties of different types of colloidal dispersion systems. **06**
(b) What is meant by controlled flocculation? Discuss the various means by which controlled flocculation can be achieved. **05**
(c) Write a note on physical stability of emulsion. **05**
- Q.6** (a) What are association colloids? Mention the mechanism of formation of micelles. **06**
(b) Enlist the methods for particle size determination. Explain conductivity method. **05**
(c) Discuss the derived properties of powder. **05**
- Q.7** (a) Define rheology, give the application of rheology in pharmacy. **06**
(b) Classify various instruments for measurement of viscosity. Describe any one viscometer to find out viscosity of Newtonian fluids. **05**
(c) Explain the plastic and pseudoplastic flow curves with examples. **05**
