

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 2 EXAMINATION – WINTER -2019**Subject Code: 2220001****Date: 21-12-2019****Subject Name: Physical Pharmacy****Time: 10:30 AM TO 01:30 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) Classify organic molecular complexes. Describe nature of reactions of it with suitable examples. **06**
(b) Enlist methods to study protein binding. Explain any one method in detail. **05**
(c) Write a short note on applications of complexes in dosage form. **05**
- Q.2** (a) Discuss the influence of solvents and surfactants on solubility. **06**
(b) Define partition coefficient. Discuss its importance in pharmaceutical systems. **05**
(c) Write a short note on solubility of gases in liquids. **05**
- Q.3** (a) Discuss the binding forces present between molecules. **06**
(b) What is phase rule? Explain phase diagram of water. **05**
(c) Write a short note on liquid crystals. **05**
- Q.4** (a) What is HLB? Describe any one method to determine it. **06**
(b) Define following **05**
I) Porosity II) Kinematic Viscosity III) Surface Tension
IV) Condensed System V) Supersaturation
(c) Write a short note on applications of colloids in pharmacy. **05**
- Q.5** (a) Discuss the factors influencing physical stability of suspensions. **06**
(b) Explain in detail about causes for the instability of emulsions. **05**
(c) Explain the working principle of Coulter Counter with the help of a neat diagram. **05**
- Q. 6** (a) Describe various way of quantifying the flow of powder. **06**
(b) Discuss methods for determination of particle size diameter. **05**
(c) Explain Air permeability method with a neat diagram. **05**
- Q.7** (a) Explain in detail about plastic and pseudoplastic flow with suitable examples. **06**
(b) Describe working principle of Ostwald viscometer with labeled diagram. **05**
(c) Discuss factors influencing viscosity. **05**
