

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 2- EXAMINATION –WINTER - 2018

Subject Code: 2220001

Date: 19/12/2018

Subject Name: Physical Pharmacy

Time: 02:30 PM TO 05:30 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 and Explain phase rule. Discuss phase diagram for one component system. | 06 |
| | (b) Write a note on : Liquid crystals and Glassy state. | 05 |
| | (c) Discuss in details about binding forces between molecules. | 05 |
| Q.2 | (a) Define Solubility. Describe the influence of surfactants on solubility. | 06 |
| | (b) Explain kinetic properties of colloids. | 05 |
| | (c) Describe solubility of gases in liquids. | 05 |
| Q.3 | (a) Define emulsion and classify with suitable examples. Explain the theory behind stability of emulsion. | 06 |
| | (b) What is meant by controlled flocculation? Discuss the various means by which controlled flocculation can be achieved. | 05 |
| | (c) Explain Sedimentation Parameter of suspension in detail. | 05 |
| Q.4 | (a) Define micromeritics. Explain method for determining particle surface area of porous materials. | 06 |
| | (b) Discuss the derived properties of powder. | 05 |
| | (c) Describe briefly optical microscopy for particle size determination with its advantages and disadvantages. | 05 |
| Q.5 | (a) What is Surface tension. Enumerate the methods for the determination of surface and interfacial tension. Explain capillary rise method. | 06 |
| | (b) Explain about Solute - solvent Interaction for polar and non polar solvent. | 05 |
| | (c) Write a note on HLB | 05 |
| Q. 6 | (a) Differentiate between (i) ideal and real solution (ii) Lyophilic colloids and Lyophobic colloids. | 06 |
| | (b) Give the pharmaceutical applications of complexes in dosage forms. | 05 |
| | (c) Write a note on Spreading coefficient. | 05 |
| Q.7 | (a) Classify various instruments for measurement of viscosity. Discuss on rotating spindle type viscometer . | 06 |
| | (b) What is thixotropy and antithixotropy. Give its Pharmaceutical applications. | 05 |
| | (c) Define and explain: Angle of repose and Carr's Index with their pharmacopoeial specification. | 05 |
