

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.**

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|-------------|-----|---|-----------|
| 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 andinterfacial tension. Explain capillary rise method. | 06 |
| | (b) | Explain about Solute - solvent Interaction for polar and non polar solvent. | 05 |
| | (c) | Write an 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 applicatios of complexes in dosage forms. | 05 |
| | (c) | Write a note on Spreading coefficient. | 05 |
| Q.7 | (a) | Classify various instruments for measurement of viscosity. Descuss 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 |
