

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm SEMESTER– III EXAMINATION – SUMMER -2020

Subject Code:BP302TP**Date: 27-10-2020****Subject Name: Physical Pharmaceutics I****Time: 2:30 PM TO 5:30 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) | Explain about partially miscible liquid by taking example of Phenol Water system. | 06 |
| | (b) | Write the mechanism of solute-solvent interaction. | 05 |
| | (c) | Explain the factor affecting solubility of drug. | 05 |
| Q.2 | (a) | Enlist the methods for determination of surface and Interfacial tension. Explain capillary rise method in detail. | 06 |
| | (b) | Define surface tension. Write its unit, Discuss the HLB scale in detail. | 05 |
| | (c) | Write in brief about detergency and give application of surfactants. | 05 |
| Q.3 | (a) | Write a note on organic molecular complexes. | 06 |
| | (b) | Give the application of complexes in detail. | 05 |
| | (c) | Classify types of complex. Explain Inclusion complex in detail. | 05 |
| Q.4 | (a) | Write a note on Liquid crystals. | 06 |
| | (b) | Explain in brief about glassy state and polymorphism. | 05 |
| | (c) | What is dielectric constant and dipole moment? Write its application. | 05 |
| Q.5 | (a) | Write a note on Pharmaceutical buffer. | 06 |
| | (b) | Explain buffer equation and buffer capacity. | 05 |
| | (c) | Enlist the adjustment methods of tonicity and explain freezing point depression method. | 05 |
| Q. 6 | (a) | What is Adsorption Isotherm? Describe different types of Adsorption Isotherm. Discuss Freundlich Isotherm. | 06 |
| | (b) | Explain liquefaction of gases and methods of achieving liquefaction. Give application of this phenomenon in pharmacy. | 05 |
| | (c) | Define- Solubility, Raoult's law, critical solution temperature, diffusion, solvation. | 05 |
| Q.7 | (a) | What is spreading co-efficient ? Derive its equation. | 06 |
| | (b) | Explain in brief about Eutectic Mixture with Phase diagram. | 05 |
| | (c) | Explain in brief about drug protein binding. | 05 |
