

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**
