Seat No.: _____   Enrolment No. _____

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, Rauolt'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**

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