Seat No.: _____ **Enrollment No. _____**

GUJARAT TECHNOLOGICAL UNIVERSITY

B Pharm. SEMESTER-IV EXAMINATION –WINTER -2020

Subject Code: BP403TP **Date: 11/02/2021**

Subject Name: Physical Pharmaceutics-II

Time: 02:30PM TO 04:30PM **Total Marks: 54**

Instructions:

1. **Attempt any THREE questions from Q-1 to Q-6.**
2. **Q.7 is compulsory to attempt.**
3. **Make suitable assumptions wherever necessary.**
4. **Figures to the right indicate full marks.**

Q.1	**(a)**	Differentiate Lyophilic colloids and Lyophobic colloids. Discuss association colloids.	**06**
	(b)	Explain the concept of DLVO theory along with energy curve and how this theory is applied in stabilizing the colloidal dispersion.	**05**
	(c)	Enlist different properties of colloids. Explain kinetic properties.	**05**
Q.2	**(a)**	Enumerate different methods commonly used for measurement of particle size determination. Describe optical microscopy method.	**06**
	(b)	Classify the methods used for determination of surface area. Explain air permeability method with diagram.	**05**
	(c)	Define and explain: Angle of repose and Carr's Index with their pharmacopoeial specification.	**05**
Q.3	**(a)**	Explain sedimentation parameters of suspension in detail.	**06**
	(b)	Enlist the physical instability markers of emulsion and explain any two.	**05**
	(c)	Discuss various mechanism of emulsifying agents.	**05**
Q.4	**(a)**	Discuss accelerated stability testing in expiration dating of pharmaceutical dosage forms.	**06**
	(b)	Derive the equation of Half life for zero order and first order kinetics.	**05**
	(c)	Write about chemical factors influencing the chemical degradation of pharmaceutical product.	**05**
Q.5	**(a)**	Explain the plastic and pseudoplastic flow curves with example.	**06**
	(b)	Define: Kinematic viscosity, Fluidity, Bulges, Rheopexy and Poise.	**05**
	(c)	Explain cup and bob viscometer with diagram.	**05**
Q. 6	**(a)**	Discuss porosity and packing arrangement of powder with application of micromeritics.	**06**
	(b)	Describe different types of emulsion.	**05**
	(c)	Define thixotropy. Comment on thixotropy and antithixotropy.	**05**
Q.7	**(a)**	Enlist the different type of densities of powder. Write the experimental method for the determination of any one of them.	**06**
		OR	
	(a)	Define suspension. Write a note on factors affecting stability of suspension.	**06**
		OR	
	(a)	Write the principle and working of Ostwald viscometer.	**06**

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