Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 4 EXAMINATION – SUMMER -2019

Subject Code: BP403TP **Date: 13-05-2019**

Subject Name: Physical Pharmaceutics II

Time: 10:30 AM TO 01:30 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)**	Discuss pharmaceutical application of colloids. Differentiate various types of colloidal dispersion system.	**06**
	(b)	Explain: Kraft point and gold number.	**05**
	(c)	Explain kinetic properties of colloids.	**05**
Q.2	**(a)**	Discuss the concept of DLVO theory along with the energy curve and explain how this theory is applied in stabilizing the colloidal dispersion.	**06**
	(b)	What is the effect of plug flow in measurement of viscosity of a plastic system, in cup and bob viscometer? How plug flow can be minimised?	**05**
	(c)	Write a note on thixotropy.	**05**
Q.3	**(a)**	Discuss non-Newtonian flow with rheogram, mechanism and explain with suitable example.	**06**
	(b)	Describe a suitable viscometer with diagram which can measure the viscosity of dispersion of sodium alginate in water.	**05**
	(c)	Define suspension. Differentiate between flocculated and deflocculated suspension.	**05**
Q.4	**(a)**	Discuss different approaches used to achieve flocculation in suspensions.	**06**
	(b)	Explain sedimentation parameter of suspension in detail.	**05**
	(c)	Enlist the physical instability markers of emulsion and discuss any two.	**05**
Q.5	**(a)**	Enlist the different type of densities of powder. Write the experimental method for the determination of true density.	**06**
	(b)	Explain method for determining particle surface area.	**05**
	(c)	Give factors affecting powder flow.	**05**
Q. 6	**(a)**	Enlist methods of particle size estimation. Explain conductivity method in detail.	**06**
	(b)	Discuss angle of repose and Carr's Index with their pharmacopoeial specification.	**05**
	(c)	Write a short not on accelerated stability study.	**05**
Q.7	**(a)**	Describe the various methods of determination of reaction order.	**06**
	(b)	Explain factors which govern the rate of chemical reaction.	**05**
	(c)	Discuss the various means of stabilization of product which is sensitive to oxidation.	**05**

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