Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. SEMESTER–IV EXAMINATION – SUMMER -2023

Subject Code: BP403TP Date: 17/07/2023

Subject Name: Physical Pharmaceutics-II

Time: 10:30AM TO 01:30PM 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: Kraft point and gold number.	**06**
	(b)	Differentiate between lyophillic and lyophobic colloids.	**05**
	(c)	Enumerate properties of colloids and explain optical properties in detail.	**05**
Q.2	**(a)**	Sketch Rheogram for Newtonian and Non-newtonian flow.	**06**
	(b)	What is plug flow in measurement of viscosity and how it can be minimized?	**05**
	(c)	Define thixotropy and antithixotropy? Sketch different types of thixotropic and antithixotropy rheograms.	**05**
Q.3	**(a)**	How accelerated stability studies are carried out?	**06**
	(b)	Enlist different methods for the determination of order of reaction and explain any one method in detail.	**05**
	(c)	Define first order reaction. Derive its equation for half life and shelf life.	**05**
Q.4	**(a)**	Write a note on physical stability of emulsion.	**06**
	(b)	Differentiate between flocculated and deflocculated suspension.	**05**
	(c)	Summarize the theories of emulsion.	**05**
Q.5	**(a)**	Discuss the sedimentation parameters for suspension.	**06**
	(b)	Define angle of repose and explain the factors affecting powder flow.	**05**
	(c)	Write a note on DLVO theory.	**05**
Q. 6	**(a)**	Enlist various physical and chemical parameters affecting drug degradation and explain any two factors in detail.	**06**
	(b)	How one can determine the true density of porous powder?	**05**
	(c)	Describe the Kawakita and Heckle equations in regard to compression.	**05**
Q.7	**(a)**	Discuss the derived properties of powder.	**06**
	(b)	Explain any one method for determining the particle surface area.	**05**
	(c)	Discuss the principle and working of coulter counter along with labeled diagram.	**05**

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