GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER –4 EXAMINATION – SUMMER-2024

Subject Code: BP403TP   **Date: 12/06/2024**

Subject Name: Physical Pharmaceutics II

Time: 10.30 a.m. to 1.30 p.m.   **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)**	Classify the different types of colloids in brief.	**06**
	(b)	Write note on types of emulsion.	**05**
	(c)	Describe the DLVO theory with energy curve.	**05**
Q.2	**(a)**	Explain cup and bob viscometer with a labelled diagram.	**06**
	(b)	Differentiate Newtonian and Non-Newtonian systems with suitable examples.	**05**
	(c)	Define: Kinematic viscosity, Thixotropy, Spur, Rheopexy, Fluidity.	**05**
Q.3	**(a)**	Describe physical instability markers of emulsion.	**06**
	(b)	Explain the sedimentation volume and degree of flocculation of suspension.	**05**
	(c)	Differentiate flocculated suspension and deflocculated suspension.	**05**
Q.4	**(a)**	Enlist the methods for determination of particle size and explain conductivity method in detail.	**06**
	(b)	Enumerate the derived properties of powders and explain angle of repose.	**05**
	(c)	What is specific surface of particles? Discuss air permeability method in brief.	**05**
Q.5	**(a)**	Enlist the factors affecting rate of reaction and explain temperature in detail.	**06**
	(b)	Discuss photolytic degradation and its prevention.	**05**
	(c)	Derive the first order rate of reaction equation.	**05**
Q. 6	**(a)**	Discuss the optical properties of colloids in brief.	**06**
	(b)	Describe the Heckle equation.	**05**
	(c)	Define: Stoke's diameter, Projected diameter, Surface diameter, Micromeritics, Carr's index.	**05**
Q.7	**(a)**	Write a note on accelerated stability study with its limitations.	**06**
	(b)	Give note on negative Thixotropy.	**05**
	(c)	Comment: Emulsions are thermodynamically unstable. Justify. Define colloids and explain the term Gold number.	**05**

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