Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 7 EXAMINATION – WINTER -2024

Subject Code:2270001 Date: 20-11-2024

Subject Name: Dosage form Design I

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)**	Explain various methods used for enhancement of bioavailability.	**06**
	(b)	What is the importance of Documentation in GMP?	**05**
	(c)	Write a note on Biodegradable Polymer.	**05**
Q.2	**(a)**	What is BCS classification? How does it affect development of dosage form?	**06**
	(b)	Write a short note on kinetics of protein-drug binding.	**05**
	(c)	Explain world climatic zones as per ICH guidelines.	**05**
Q.3	**(a)**	Define Preformulation. Write a note on physicochemical properties related to solubility study in Preformulation.	**06**
	(b)	Write a note on similarity factor and dissimilarity factor.	**05**
	(c)	Write a note on similarity factor and dissimilarity factor.	**05**
Q.4	**(a)**	How does particle size influence GI absorption of drugs? Explain with suitable	**06**
	(b)	What is the meaning of prodrugs. Give its application in formulation	**05**
	(c)	What is IVIVC? Describe In-vitro - In-vivo correlations levels	**05**
Q.5	**(a)**	Discuss Brackating and Matrixing method in brief.	**06**
	(b)	Write a note on Prodrug.	**05**
	(c)	Explain various types of equivalence. How Latin square cross over design works?	**05**
Q. 6	**(a)**	Discuss Noyes Whitney equation for rate of dissolution. Discuss USP type I apparatus for dissolution.	**06**
	(b)	Define disintegrating agent. Give examples of commonly used disintegrating agents. Write mechanism of disintegration.	**05**
	(c)	Write a note on factors affecting on stability of pharmaceutical dosage form.	**05**
Q.7	**(a)**	Enlist the chemical properties observed during Preformulation study. Explain oxidation in detail.	**06**
	(b)	Explain AUC. What is its significance? How will you measure it?	**05**
	(c)	What is the importance of $t_{1/2}$ in design and development of a dosage form?	**05**

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