Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM. - SEMESTER– VII • EXAMINATION – SUMMER-2016

Subject Code: 2270001 Date: 03/05/2016

Subject Name: Dosage Form Design - I

Time: 2:30 PM to 5:30 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)**	Define preformulation. Write a note on physicochemical properties related to solubility study in preformulation.	**06**
	(b)	Enlist the chemical properties observed during preformulation study. Explain hydrolysis in detail	**05**
	(c)	What in the meaning of prodrugs. Give its application in formulation	**05**
Q.2	**(a)**	Classify the polymers. Discuss in brief about polymer properties.	**06**
	(b)	What is the meaning of biodegradable polymers? Explain its mechanism of biodegradation with suitable example	**05**
	(c)	Enlist the cellulosic derivative polymers. Give detail about HPMC	**05**
Q.3	**(a)**	Define Half life, Self life and Overage. Discus about international climatic zones as per ICH guideline	**06**
	(b)	Write a note on factors affecting on stability of pharmaceutical dosage form.	**05**
	(c)	Write a short note on matrixing and bracketing study design.	**05**
Q.4	**(a)**	Enlist factors affecting gastro intestinal absorption. Discus in detial effact of gastric empting time on drug absorption.	**06**
	(b)	Enlist various mechanisms of drug transport. Discus active transport in detail.	**05**
	(c)	Write a short note on kinetics of protein-drug binding.	**05**
Q.5	**(a)**	Define bioavailability. Give its objective. Discuss plasma level time studies for measurement of bioavailability.	**06**
	(b)	Define bioequivalence. Write a note on Latin square cross over design.	**05**
	(c)	Explain various methods used for enhancement of bioavailability.	**05**
Q. 6	**(a)**	Writ full name BCS. Give its objective. Write factors affecting drug dissolution with respect to test apparatus.	**06**
	(b)	Write a note on similarity factor and dissimilarity factor.	**05**
	(c)	Enlist the dissolution apparatus. Discus Apparatus III, IV and V with labeled diagram.	**05**
Q.7	**(a)**	Enlist the theories of dissolution. Explain in detail Film Theory	**06**
	(b)	Write a note on volume of distribution.	**05**
	(c)	Explain Accelerated stability study as per ICH guideline.	**05**

****