

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 7- EXAMINATION –WINTER - 2018

Subject Code: 2270001

Date: 15/11/2018

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) Define Preformulation studies. Explain steps involved in Preformulation studies.	06
	(b) How polymorphism and crystallinity influence performance of drug product. Explain in brief methods to identify polymorphism and crystallinity.	05
	(c) Define diluents. Classify Diluents. Write a note on versatility of lactose as diluents in oral solid dosage forms.	05
Q.2	(a) Define disintegrating agent. Give examples of commonly used disintegrating agents. Write mechanism of disintegration.	06
	(b) What do you mean by polymer? Write a note on polymers used in different dosage forms with examples.	05
	(c) Write short note on passive diffusion.	05
Q.3	(a) Write a note on Prodrug. Discuss Prodrug approaches.	06
	(b) Write a short note on Matrixing and Bracketing study design.	05
	(c) Define bioequivalence. Write a short note on Latin-square cross-over design.	05
Q.4	(a) Write a note on factors affecting on stability of pharmaceutical dosage form.	06
	(b) Discuss in detail volume of distribution.	05
	(c) How purity of API and drug degradation are studied in product development?	05
Q.5	(a) Discuss Noyes Whitney equation for rate of dissolution. Discuss USP type I apparatus for dissolution.	06
	(b) Define overages and discuss methods to determine overages.	05
	(c) Discuss remedies to overcome degradation due to hydrolysis and oxidation in pharmaceutical dosage form.	05
Q. 6	(a) Define biopharmaceutics. Enlist various mechanisms of drug transport. Discuss active transport in detail.	06
	(b) Draw a well labelled diagram of cell membrane and Discuss Endocytosis.	05
	(c) Define relative and absolute bioavailability. Discuss plasma level time studies for measurement of bioavailability.	05
Q.7	(a) Write a short note on “Plasma Protein Binding”	06
	(b) Discuss tissue permeability of drug in distribution.	05
	(c) Write a note on drug clearance.	05
