Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – 7- EXAMINATION –WINTER - 2018

Subject Code:270001 **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 polymorphism. Give the characteristics of polymorphisms.	**06**
	(b)	Enumerate the chemical properties of drug for preformulation. Explain oxidation and its prevention in drug formulation.	**05**
	(c)	Give the importance of particle size of drug in preformulation study.	**05**
Q.2	**(a)**	Define prodrug. Give the importance of prodrug in formulation.	**06**
	(b)	Give the types of suspending agents used in suspension formulation.	**05**
	(c)	Give the mechanisms and role of antioxidants in formulation.	**05**
Q.3	**(a)**	What is adjuvant? Give its importance in formulations. Give the FDA approved colors and their interaction in drug formulations.	**06**
	(b)	What are overages? How do they calculate?	**05**
	(c)	Write a note on accelerated stability testing for drug product.	**05**
Q.4	**(a)**	Explain the different types of climatic zone for drug stability.	**06**
	(b)	How do the container and closure affect the drug stability?	**05**
	(c)	Define half-life. Derive the equation for half-life for first order kinetic reaction.	**05**
Q.5	**(a)**	Give the difference between active transport and passive transport.	**06**
	(b)	Explain volume of distribution of drug.	**05**
	(c)	Explain the anatomy and physiology of cell membrane.	**05**
Q. 6	**(a)**	Enumerate the physiological factors for drug absorption and explain the gastric emptying time.	**06**
	(b)	Define bioavailability. Explain the factors required to study the bioavailability.	**05**
	(c)	Explain the BCS classification with suitable examples.	**05**
Q.7	**(a)**	Define bioequivalent. Explain the single dose bioequivalence study.	**06**
	(b)	Explain the dissolution apparatus type I and type II as per USP.	**05**
	(c)	Explain similarity and dissimilarity factors for drug dissolution.	**05**

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