Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – VII • EXAMINATION – SUMMER 2013

Subject Code: 270001 Date: 10-05-2013

Subject Name: Dosage Form Design-I

Time: 02.30 am - 05.30 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)	What is preformulation? Discuss the significance of particle size and shape in formulation.	**06**
	(b)	How prodrug approach is useful to increase the bioavailability of drug?	**05**
	(c)	What are physicochemical factors affecting preformulation study? Discuss the importance of polymorphism in preformulation.	**05**
Q.2	(a)	Classify additives used in pharmaceutical formulations. Describe in detail about suspending agents.	**06**
	(b)	Discuss in detail antifrictional agent and disintegrating agent.	**05**
	(c)	Write a short note on ointment bases.	**05**
Q.3	(a)	Discuss stability testing of new drug substances and products as per ICH guideline.	**06**
	(b)	What is matrixing and bracketing?	**05**
	(c)	Define: Formulation stability and MKT. Describe climate zone according to stability studies.	**05**
Q.4	(a)	Enumerate the drug transport mechanisms. Discuss passive diffusion in detail.	**06**
	(b)	What is gastric emptying? Describe its role in drug absorption.	**05**
	(c)	Explain: Volume of distribution. Discuss the kinetics of protein drug binding.	**05**
Q.5	(a)	Define absolute and relative bioavailability. Discuss plasma level time studies for measurement of bioavailability.	**06**
	(b)	Explain various types of equivalence. How Latin square cross over design works?	**05**
	(c)	What are the various levels of *in vitro-in vivo* correlation?	**05**
Q. 6	(a)	Describe the methods for comparison of dissolution profile.	**06**
	(b)	What are the ideal features expected from dissolution apparatus?	**05**
	(c)	Discuss the significance of BCS system.	**05**
Q. 7	(a)	Define clearance and renal clearance ratio of drug. Describe factors influencing renal excretion of drug.	**06**
	(b)	What are overages? Describe calculation of overages.	**05**
	(c)	Describe the importance of solubility in preformulation.	**05**

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