Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 8 EXAMINATION – SUMMER -2019

Subject Code: 280001 **Date: 04-05-2019**

Subject Name: Dosage Form Design- II

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)**	Enumerate various approaches for gastro retentive drug delivery system. Describe formulation and evaluation of any one.	**06**
	(b)	Discuss Cube route dissolution equation with respect to drug release from modified release dosage forms.	**05**
	(c)	Discuss erosion-controlled drug delivery system.	**05**
Q.2	**(a)**	Comment on following with reasons: 1. Osmotically controlled formulation system releases drug through zero order rate. 2. Liposomes are more stable as compared to niosomes.	**06**
	(b)	Describe formulation and evaluation of transdermal drug delivery systems.	**05**
	(c)	Discuss the impact of biological factors in designing modified release oral dosage forms	**05**
Q.3	**(a)**	Describe various formulation strategies for preparing liposomes. Describe sample formulation for liposome in brief.	**06**
	(b)	Explain drug interaction. Discuss ADME drug interactions with suitable examples.	**05**
	(c)	Enlist different pharmacokinetic models. What is compartment model? Mention advantages and disadvantages of the same.	**05**
Q.4	**(a)**	Discuss one compartment open model - i.v. infusion model and discuss the effect of loading i.v. injection dose	**06**
	(b)	Describe in detail the formulation and evaluation of Hydrogels.	**05**
	(c)	Describe with example preparation and evaluation of parenteral suspension.	**05**
Q.5	**(a)**	What is maintenance dose and loading dose for modified release drug delivery system. Write in brief the method to find them.	**06**
	(b)	Write a note on osmotic ocular inserts. Mention the components of each part.	**05**
	(c)	Explain the significance of Renal clearance and dosage regimen.	**05**
Q. 6	**(a)**	What are rationales for colon targeting? Name different approaches for colon targeting and discuss any one with example.	**06**
	(b)	What is extraction ratio? Define clearance, total body clearance and organ clearance.	**05**
	(c)	Enlist the methods for determination of absorption rate constant and explain any one in detail.	**05**
Q.7	**(a)**	Write in brief the formulation and evaluation of microspheres.	**06**
	(b)	Explain non-linear pharmacokinetics using Michaelis Menten equation.	**05**
	(c)	Classify methods for formulation of nanoparticles. Discuss any one in detail.	**05**

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