Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 280001 **Date: 28/04/2016**

Subject Name: **Dosage Form Design - II**

Time: 10:30 AM to 1:30 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)**	Enlist the factor affecting on design of oral sustained release systems and explain it.	**06**
	(b)	Discuss formulation of diffusion layer controlled drug delivery systems.	**05**
	(c)	Discuss the formulation of parenteral emulsions and suspensions.	**05**
Q.2	**(a)**	Explain lag time, burst effect and reservoir systems with respect to control release formulations.	**06**
	(b)	Write a note on bioerodible and combination of diffusion and dissolution systems.	**05**
	(c)	Differentiate between microspheres and microcapsules.	**05**
Q.3	**(a)**	Explain loading dose and maintenance dose used in controlled release formulation.	**06**
	(b)	Enlist different approaches for formulation of colon targeted drug delivery system and explain any two of them.	**05**
	(c)	How are liposomes classified? Why are considered versatile carriers for parenteral drug delivery.	**05**
Q.4	**(a)**	Describe the floating drug delivery system.	**06**
	(b)	Write a note on ophthalmic controlled release systems.	**05**
	(c)	Explain formulation of different types of transdermal drug delivery system.	**05**
Q.5	**(a)**	Explain the method of residuals for the calculation of absorption rate constant form oral data.	**06**
	(b)	Explain Sigma – Minus Method for determination of elimination rate constant.	**05**
	(c)	Explain pharmacokinetic drug interactions giving suitable examples.	**05**
Q. 6	**(a)**	Define clinical pharmacokinetics and explain dosage adjustment in patients with renal failure.	**06**
	(b)	Explain how one can detect nonlinear pharmacokinetics? Explain Michaelis Menten equation for capacity limited process.	**05**
	(c)	Define "Drug interaction". Explain pharmacokinetic drug interactions giving suitable examples.	**05**
Q.7	**(a)**	What are pharmacokinetic models? Explain in detail compartment models.	**06**
	(b)	Discuss extraction ratio and hepatic clearance in detail.	**05**
	(c)	Explain osmotic controlled drug delivery system.	**05**

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