Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. PHARM. - SEMESTER – VIII EXAMINATION – OCTOBER 2012

Subject code: 280001 **Date: 25/10/2012**

Subject Name: Dosage Form Design-II

Time: 02.30pm - 05.30pm **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 criteria are necessary for selection of a drug as candidate for formulations of controlled release form? Explain giving optimum ranges for the Bio-pharmaceutics and pharmacokinetics parameters of the drug.	**06**
	(b)	What is the major objective of controlled drug delivery system? Give advantages and disadvantages of such a system.	**05**
	(c)	Explain loading dose and maintenance dose used in controlled release formulation.	**05**
Q.2	(a)	Discuss the formulation of floating drug delivery systems	**06**
	(b)	Explain formulation of different types of trans dermal drug delivery system.	**05**
	(c)	Write a note on colon targeted drug delivery system.	**05**
Q.3	(a)	Explain the method of residuals for the calculation of absorption rate constant form oral data.	**06**
	(b)	What are pharmacokinetic models? Explain in detail compartment models.	**05**
	(c)	Define and explain extraction ratio and discuss hepatic clearance in detail.	**05**
Q.4	(a)	Enlist diffrent methods for determination of pharmockinetics parametrs from urinary excretion data and explain any one method in detail.	**06**
	(b)	Define clinical pharmacokinetics and explain dosage adjustment in patients with renal failure.	**05**
	(c)	Explain pharmacokinetic drug interactions giving suitable examples.	**05**
Q.5	(a)	Discuss the formulation of parenteral emulsions and suspensions	**06**
	(b)	Write a note on implantable osmotic drug delivery system	**05**
	(c)	How are liposomes classified? Why are considered versatile carriers for parenteral drug delivery.	**05**
Q. 6	(a)	Explain lag time, burst effect and reservoir systems with respect to control release formulations	**06**
	(b)	Explain Hixson and Crowell's cube root law of dissolution.	**05**
	(c)	Write a note on dissolution and diffusion controlled release system	**05**
Q. 7	(a)	Explain how one can detect nonlinear pharmacokinetics? Explain Michaelis Menten equation for capacity limited process.	**06**
	(b)	Explain Wagner nelson method in detail.	**05**
	(c)	Write a note on formulation of trans mucosal drug delivery system	**05**

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