Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. - SEMESTER–8 • EXAMINATION – SUMMER -2018

Subject Code: 280001 **Date: 28/4/2018**
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)	Explain various biological factors to be considered in the design of sustained release dosage forms.	**06**
	(b)	Write a note on Bio erodible controlled drug delivery systems.	**05**
	(c)	Enlist various physicochemical factors to be considered in the design of sustained release dosage forms. Discuss the effect of porosity and tortuosity on release rate of sustained release formulations.	**05**
Q.2	(a)	Discuss evaluation of release characteristics for the final dosage form with respect to oral controlled release formulations.	**06**
	(b)	Explain non erodible and erodible ocular control release system.	**05**
	(c)	Write a note on burst effect with respect to controlled release diffusional systems.	**05**
Q.3	(a)	Explain in detail about approaches for colon targeted drug delivery system.	**06**
	(b)	Write a note on evaluation of Transdermal drug delivery system.	**05**
	(c)	Explain in brief preparation of microspheres.	**05**
Q.4	(a)	Discuss the formulation of parenteral emulsions and suspensions.	**06**
	(b)	Explain various types of osmotic pressure controlled systems with suitable diagram.	**05**
	(c)	Write a note on various classes of matrix tablets with respect to modified drug release dosage forms.	**05**
Q.5	(a)	Draw typical plasma concentration time profile curve. Explain Pharmacokinetic and Pharmacodynamics parameters in brief.	**06**
	(b)	Give advantages and disadvantages of compartment modeling.	**05**

	(c)	A drug has an elimination half life of 8 h and follows first order kinetics. If a single dose 200mg is given to an adult male patient (68 kg) by i.v. bolus injection, calculate the percent of the dose lost in 24h.	**05**
Q. 6	(a)	Define clinical pharmacokinetics. Explain methods for the calculation of creatinine clearance from serum creatinine concentration.	**06**
	(b)	Define drug interaction. Discuss interactions that involve a change in drug absorption from GIT with suitable examples.	**05**
	(c)	Explain dosage adjustment in patients with renal and hepatic failure.	**05**
Q.7	(a)	Explain how one can detect nonlinear pharmacokinetics? Explain Michaelis Menten equation for capacity limited process.	**06**
	(b)	Describe One- compartment open model kinetic after iv bolus administration.	**05**
	(c)	Write merits of non- compartmental analysis. Explain AUC & AUMC plots	**05**

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