Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2280001 **Date: 14-11-2019**

Subject Name: Dosage form Design II

Time: 02:30 PM TO 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)**	Discus controlled release formulation with suitable example.	**06**
	(b)	Explain Hixson and Crowell's cube root law of dissolution.	**05**
	(c)	Give the difference between conventional and controlled release system, describe the evaluation of oral controlled drug delivery system.	**05**
Q.2	**(a)**	Discuss formulation of osmotic based drug delivery system.	**06**
	(b)	Enlist parameters to be considered in design of CRDDS.Discusss approaches for oral delayed release DDS.	**05**
	(c)	Give account of polymers used in formulation of colon drug delivery system.	**05**
Q.3	**(a)**	Discuss Penetration enhancer in TDDS.	**06**
	(b)	Discuss in detail formulation of transdermal drug delivery system.	**05**
	(c)	Discuss in vitro drug release and permeation studies for TDDS.	**05**
Q.4	**(a)**	Discuss method of preparation of nano particles.	**06**
	(b)	Discuss over view of anatomy and physiology of eye and explain absorption pathway for drug in eye.	**05**
	(c)	Give an account of approaches for designing of gastro retentive dosage form.	**05**
Q.5	**(a)**	Discuss on Wagner nelson and Loo-Riegelman method.	**06**
	(b)	Note on volume of distributions.	**05**
	(c)	Discuss one compartment open model, I.V. infusion model and discuss the effect of loading IV injection dose. Describe the derivation of various pharmacokinetic parameters for the model.	**05**
Q. 6	**(a)**	Explain Michaelis Menten kinetics and method to determine Km and Vmax.	**06**
	(b)	What are pharmacokinetic model? Explain in detail compartment model?	**05**
	(c)	Define clearance, total body clearance and organ clearance .what is extraction ratio?	**05**
Q.7	**(a)**	Explain dosage adjustment in patients with renal and hepatic failure.	**06**
	(b)	What are the various ways of reducing risk of drug interaction?	**05**
	(c)	Define clinical pharmacokinetics and describe its scope.	**05**

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