Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.PHARM – SEMESTER -1 - EXAMINATION –WINTER - 2018

Subject Code: MPT102T Date: 03/01/2019

Subject Name: Advances in drug delivery system

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)**	Discuss basic concepts of sustained and controlled drug delivery systems.	**06**
	(b)	Give classification of oral controlled drug delivery systems.	**05**
	(c)	Discus mechanism of drug delivery from SR/CR formulation.	**05**
Q.2	**(a)**	Discuss the suitable excipients for osmotic drug delivery system. Which API's can be formulated by this approach? Why?	**06**
	(b)	Describe physic-chemical and biological factors influencing dissolution and diffusion controlled systems.	**05**
	(c)	Describe criteria for the drug candidate selection for SR/CR dosage forms.	**05**
Q.3	**(a)**	List out the factors affecting the designing of oral sustained release drug delivery system and discuss any one in detail to formulate it.	**06**
	(b)	Write a note on mucoadhesive drug delivery system.	**05**
	(c)	Define microencapsulation. Mention objectives of microencapsulation.	**05**
Q.4	**(a)**	Enlist various approaches for the preparation of microcapsules. Explain any two.	**06**
	(b)	Describe various evaluations of microcapsules.	**05**
	(c)	Write a note on intra muscular implants.	**05**
Q.5	**(a)**	Define Implants and Inserts. Discuss the applications, techniques and mechanism of drug release for subcutaneous implants with examples.	**06**
	(b)	Write a note on Intra vaginal Inserts.	**05**
	(c)	Write a note on sonophoresis.	**05**
Q. 6	**(a)**	What are the approaches for formulation development of transdermal drug delivery systems? Explain in details.	**06**
	(b)	Discuss physicochemical & biological approaches for sustained release formulations.	**05**
	(c)	Discuss percutaneous absorption through skin.	**05**
Q.7	**(a)**	Discuss 3D printing of pharmaceuticals and telepharmacy.	**06**
	(b)	Describe various evaluation parameters of Transdermal drug delivery systems.	**05**
	(c)	Write a note on personalized medicine.	**05**

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