Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. - SEMESTER– III • EXAMINATION – SUMMER 2016

Subject Code: 930102 **Date: 27/05/2016**

Subject Name: Novel Drug Delivery System: Part-II

Time: 2:30 pm – 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)**	Explain intelligent drug delivery system and discuss the various mechanisms to develop them.	**06**
	(b)	What is tailor made medicine? Explain biomarker and theranostics with reference to medicine of 2050.	**05**
	(c)	Write a note on in-situ gels.	**05**
Q.2	**(a)**	What are the ideal characteristics of biodegradable polymers? Give their advantages and disadvantages.	**06**
	(b)	What is smart polymer? Discuss in brief giving suitable example.	**05**
	(c)	Write a note on IIG status and impurity profile.	**05**
Q.3	**(a)**	What is bioadhesion? Explain suitable methods to develop these dosage forms.	**06**
	(b)	Differentiate strips, diskettes and films. Write a note on evaluation of these systems.	**05**
	(c)	Write a note on Ionto and Sonophoretic systems.	**05**
Q.4	**(a)**	What is SCF? Give its pharmaceutical applications.	**06**
	(b)	Explain PEGlyation and explain its medical applications and manufacturing challenges.	**05**
	(c)	Discuss the techniques and applications of spherical crystallization.	**05**
Q.5	**(a)**	Explain the term Nanotechnology. Explain the pharmaceutical applications of nanoparticles giving examples.	**06**
	(b)	Enlist the various methods of preparation liposomes and discuss its evaluation parameters.	**05**
	(c)	Write a note on pro-liposome's giving its advantages and disadvantages.	**05**
Q. 6	**(a)**	Define "prodrug". Give its therapeutic applications with suitable example.	**06**
	(b)	Discuss the formulation challenges associated with delivery of proteins and peptides.	**05**
	(c)	Write a note on immune modulation.	**05**
Q.7	**(a)**	Discuss any one biotech based product in detail.	**06**
	(b)	Write a note on polymers as solubilizing agent.	**05**
	(c)	Applications of liposome in drug targeting.	**05**

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