Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – III • EXAMINATION – SUMMER • 2015

Subject Code: 930102 **Date: 13-05-2015**

Subject Name: Novel Drug Delivery System Part-II

Time: 02:30 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)**	What are polymers? Classify them.	**06**
	(b)	Enumerate different properties imparted by polymers. Explain in details polymers helping in bioadhesive formulations.	**05**
	(c)	What implications can take place because of impurities in polymers?	**05**
Q.2	**(a)**	What is PEGylation? What are the manufacturing challenges of pegylated formulations?	**06**
	(b)	Write a note on nanotechnology.	**05**
	(c)	Give a brief account of medicines which are tailor made.	**05**
Q.3	**(a)**	Name the formulations which cause gels in-situ. Write the basis on which polymers form gels.	**06**
	(b)	What is the importance of spherical techniques? How is spheronization caused?	**05**
	(c)	What is SCF? Give its application in pharmaceutical science.	**05**
Q.4	**(a)**	What are penetration enhancers? Which formulations require excipients to enhance penetration? Give a brief account of alcohols as penetration enhancer.	**06**
	(b)	What are the problems encountered with protein and peptide drug delivery? How will you overcome it?	**05**
	(c)	Intelligent drug delivery system.	**05**
Q.5	**(a)**	How will you formulate film products? Give a brief account of drugs to be administered through films.	**06**
	(b)	Discuss factors affecting degradation behavior of polymers.	**05**
	(c)	What are prodrugs? Which are the different approaches of prodrug? What are the advantages of prodrugs?	**05**
Q. 6	**(a)**	Explain: what are liposomes? How do they differ from neosomes? What is the property imparted to a formulation by liposomes?	**06**
	(b)	What are the limits of usage of polymers? Write in details about cellulose and its derivatives as formulation additive.	**05**
	(c)	Give advantages of diskettes as a formulation.	**05**
Q.7	**(a)**	What is the importance of particle size and particle geometry in pharmacy?	**06**
	(b)	Write a note on immuno-modulated molecules.	**05**
	(c)	Give importance of biotechnology based products. How do they differ from synthetic and semi-synthetic drugs?	**05**

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