

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018****Subject Code:2163903****Date:03/05/2018****Subject Name:Nanotechnology and Medicine****Time:10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS	Attribute
Q.1	(a) Define: Nano medicine	03	(R/U/A)
	(b) Give difference between in vivo and vitro in the vicinity of medicine.	04	(U/A)
	(c) Write a short note on landmark growth in the sector of nanotechnology.	07	(U/A)
Q.2	(a) Define : Magnetic nanoparticles in the vicinity of nanotechnology	03	(R/U/A)
	(b) Explain use of radioisotopes for treatment of cancer.	04	(U/A)
	(c) Write a short note on Magnetic Hyperthermia.	07	(U/A)
<b>OR</b>			
	(c) Write a short note on Oil-in-Water (O/W) based Nano capsules with at least one application.	07	(U/A)
Q.3	(a) State problem associated with Cobalt based magnetic nanoparticles as drug carriers.	03	(R/U/A)
	(b) Write down useful properties of magnetic materials for drug delivery.	04	(U/A)
	(c) Write a short note on Iron oxide based magnetic nanoparticles.	07	(U/A)
<b>OR</b>			
Q.3	(a) Define: Encapsulation	03	(R/U/A)
	(b) State biocompatibility issues related to magnetic nanoparticles.	04	(U/A)
	(c) Write down applications of magnetic nanoparticles as drug carriers.	07	(U/A)
Q.4	(a) Define: Drug delivery	03	(R/U/A)
	(b) Write a short note on Calcium Phosphate Nanoparticles	04	(U/A)
	(c) Write short note on particle replication in non-wetting templates	07	(U/A)
<b>OR</b>			
Q.4	(a) Define: Drug Carrier	03	(R/U/A)
	(b) State benefit of dendrimers as drug carriers.	04	(U/A)
	(c) Write short note on fullerene conjugate for intracellular delivery of peptides polymer.	07	(U/A)
Q.5	(a) Define : Nano capsules	03	(R/U/A)
	(b) Explain : Characterization of Nano capsules	04	(U/A)
	(c) Write a short note on Water-in-Oil (W/O) based Nano capsules with necessary diagram.	07	(U/A)
<b>OR</b>			
Q.5	(a) State use of polymer nanoparticles as drug carrier.	03	(R/U/A)
	(b) Write a short note Gold Nanoparticles as drug carrier.	04	(U/A)



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