

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2183908

Date: 02-05-2018

Subject Name: Nanotechnology in Healthcare

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
Q.1	(a) What is cellular nanomachine?	03
	(b) Explain new generation of nanotools.	04
	(c) Describe building blocks of life with schematic diagram.	07
Q.2	(a) Give name of three nanomaterials used in medicine.	03
	(b) Describe any two nanoparticle's applications as diagnostic.	04
	(c) Write a short note on targeted drug delivery.	07
	OR	
	(c) Explain nanoparticles as therapeutic applications.	07
Q.3	(a) What is biosensor?	03
	(b) Describe single molecule detection techniques for the monitoring of cellular activity at the nanoscale level.	04
	(c) Explain liposome based delivery.	07
	OR	
Q.3	(a) What are micro fluidic devices?	03
	(b) Explain magnetic nanoparticles as contrast agent for medical diagnostics.	04
	(c) Write a short note on bio-inspired nanomaterials.	07
Q.4	(a) Explain membrane in short.	03
	(b) Describe nanoprobe based biosensors for the detection of chemical and biological entities.	04
	(c) Write a short note on therapeutic nanodevices.	07
	OR	
Q.4	(a) What are nanosensors?	03
	(b) Explain nanopore methods for DNA detection.	04
	(c) Write applications of nanotherapeutic devices.	07
Q.5	(a) What is top-down synthesis approach?	03
	(b) Explain nanopore methods for DNA sequencing.	04
	(c) Describe nanosystems for healthcare monitoring.	07
	OR	
Q.5	(a) What is bottom-up synthesis approach?	03
	(b) Explain single chip electrophoresis system in short.	04
	(c) Write a short note on nanotube based membrane systems.	07
