Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–V (NEW) EXAMINATION – WINTER 2020

Subject Code:3153905 Date:22/01/2021

Subject Name:Nanotechnology And Environment

Time:10:30 AM TO 12:30 PM Total Marks: 56

Instructions:

1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Define: Catalysts	**03**
	(b)	Explain: Adverse effect associated with Arsenic	**04**
	(c)	Explain possible risk of nanomaterials in the vicinity of environment and human health.	**07**
Q.2	**(a)**	Define: Toxicity	**03**
	(b)	Describe : Experimental assessment of the toxicity of C60	**04**
	(c)	Write a short note TiO_2 as a semiconductor Photo catalyst	**07**
Q.3	**(a)**	Define: Photocatalytic degradation	**03**
	(b)	Explain with necessary example photocatalytic Activity.	**04**
	(c)	Write a short note on hazardous effects of NMs on human health.	**07**
Q.4	**(a)**	Define: Microbiotest	**03**
	(b)	Explain: Reaction variables associated with photo catalyst.	**04**
	(c)	Write a short note on impacts of C60 on microbial degradation of organic matter in sediment slurries.	**07**
Q.5	**(a)**	What do mean by nano membranes?	**03**
	(b)	Explain : molecular modeling of interaction of carbon-based MN with cell membranes	**04**
	(c)	Write a short note on photocatalytic degradation of specific waterborne pollutants.	**07**
Q.6	**(a)**	Define : Desalination process	**03**
	(b)	Write short note on toxicity associated with environmental contaminants.	**04**
	(c)	Explain use of nanostructured TiO2 for treatment of Arsenic.	**07**
Q.7	**(a)**	Define: Molecular Modeling	**03**
	(b)	Write short note on potential toxicity of Fullerenes.	**04**
	(c)	Write a short note on model associated with assessment of MNs' across cell membranes	**07**
Q.8	**(a)**	What do mean by risk management?	**03**
	(b)	Explain : Intrinsic photocatalytic activity	**04**
	(c)	Write a short note nano membranes in seawater desalination.	**07**