Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER III (NEW) – EXAMINATION – WINTER-2016

Subject Code: 2735003 **Date:25/10/2016**

Subject Name: Micro and Nano Manufacturing System

Time:02:30 pm to 05:00 pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	What is Nano Technology? Also explain their application.	**07**
	(b)	What are the future scope of Nano technology in India and how is improve the living standard of peoples.	**07**
Q.2	**(a)**	Explain any two lithography process.	**07**
	(b)	With the help of flow chart briefly explain the significance of micro fabrication.	**07**
		OR	
	(b)	Explain Pulsed Water Drop Micromachining.	**07**
Q.3	**(a)**	Explain use of microscope spectrometer with configuration for micro fabrications	**07**
	(b)	Explain commercialization issues of micro and nano technology	**07**
		OR	
Q.3	**(a)**	Write the short notes on Nano grinding.	**07**
	(b)	What are nano materials? Classify nano materials with suitable example.	**07**
Q.4	**(a)**	What is carbon nano tube? Explain the structures of carbon nano tube.	**07**
	(b)	Explain importance of "Nanotechnology in biomaterials science".	**07**
		OR	
Q.4	**(a)**	Briefly explain importance of nano materials and also explain disadvantages of nano materials.	**07**
	(b)	Write the short notes on nano wire? Enlist all applications of nano wires and explain any two of them.	**07**
Q.5	**(a)**	Write the short notes on- (a) Nano chips (b) Integration of chip & Microprocessors.	**07**
	(b)	Explain polymer-matrix nano composites with electrical, thermal & optical properties.	**07**
		OR	
Q.5	**(a)**	Explain Computer aided nano design with flow diagram.	**07**
	(b)	Explain 3-D molecular modeling with neat sketches.	**07**

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