

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**
