Seat No.:	Enrolment No.

Subject Code: 2743003 Date:04/05/2016 Subject Name: Surface Science and Nano Technology 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.  Q.1 (a) Explain magnetic and optical properties of nano particles in brief. (b) Write about the impact of platinum morphological evolution on catalytic behavior.  Q.2 (a) Explain self assembly behavior of nano silica. (b) Mention the advantages of using nano particles as catalyst. OR (b) What are mesoporous material? Explain synthesis of mesoporous particle by any one technique.  Q.3 (a) Explain properties and application of mesoporous materials. (b) Explain solubility and viscosity behavior of supercritical fluids. OR  Q.3 (a) Explain template based nano synthesis. (b) Explain electro spinning technique to produce nano fibers.  Q.4 (a) State applications of supercritical fluids in brief. (b) Explain the role of super critical fluid in extraction. OR  Q.4 (a) Write a short note on zeolites with a neat diagram. (b) What are carbon nanotubes? Explain its structure and applications.  0			GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER IV (NEW) – • EXAMINATION – SUMMER 2016	
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