

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Materials Science)
Semester: IV
Syllabus with Effect from: June - 2013

Paper Code: PS04CMTS02	Total Credit: 4
Title Of Paper: Selected Topics in Nanoscience and Nanotechnology	

Unit	Description in detail	Weightage (%)
I	Nano science, Nanotechnology, Zero dimensional, one dimensional, two dimensional and three dimensional nanostructures.	25%
II	Thermal techniques, PVD, CVD, Lithographics, Template method. Mechanical properties, Thermal Properties, Surface Properties & Optical properties of nanomaterials.	25%
III	Carbon Nanostructures, graphite and graphitic sheets, fullerenes, carbon nanotube.	25%
IV	Fabrication of nanoparticles, nanofibers & their composites, Introduction to Nanoclays and their composites, preparation, Characterization and Industrial Applications. Current topics.	25%

Basic Text & Reference Books:-

- Handbook of Nanophase Materials by Avery N. Goldstein
- Nanotechnology by Gregory Timp
- Nanostructured Materials by Carl C Koch
- Introduction to Nanotechnology- Charles P. Poole & F.J. Owens

