

UG
Course Code: **CH407**
Credit: **3**
Version: **1**
Prerequisite Course: **Nil**

Department: **Chemical Engineering**
Course Name: **Nanotechnology**
L-T-P: **3-0-0**
Approved on:

- Introduction
 - Important concepts in nanoscience and nanotechnology
 - Technology that enables science
 - Current themes in nanoscale science and technology
 - Commercial applications of nanotechnology
 - The social dimensions of nanotechnology
- CMOS
- Si processing/fabrication
- Non-traditional nano-fabrication
- Carbon nanotube
- Self-organization and self-assembly
- Quantum dots and wires
- Mesoscopic transport
- Optical spectroscopy of nanostructures
- Scanning probe microscopy

Books

1. Poole, C. P. Jr. and Owens, F. J. Introduction to Nanotechnology, John Wiley, 2003
2. Plummer, J.D., Deal, M.D. and Griffin, P.B., Silicon VLSI Technology, Prentice Hall, 2000
3. Kittel, C., Introduction to Solid State Physics, a chapter about nanotechnology, John Wiley, 2004