

Code No: **R42033****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April - 2018****NANO TECHNOLOGY**
(Mechanical Engineering)**Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions**
All Questions carry equal marks

- 1 a) What is Nano technology? Write the applications of nanotechnology. [8]
b) Write the basics of quantum mechanics. [7]
- 2 a) Explain about nano materials preparation. [8]
b) Write any method for synthesis of nano particles. [7]
- 3 a) Discuss the comparison of mechanical data of α and β -SiC. [8]
b) Explain the losses due to Eddy currents in Magnetic materials. [7]
- 4 a) Write the correlation between Electronic conduction and Magnetic data. [8]
b) Explain
(i) Refractive index and dispersion
(ii) Non Linear Refractive index [7]
- 5 a) Write the Process details of Sol-Gel process details. [8]
b) Write the Electro deposition of Nano composites. [7]
- 6 a) Describe about Transmission Electron Microscopy. [8]
b) Illustrate about Atomic force microscopy. [7]
- 7 a) Explain the Interaction between biomolecules and nanoparticle surface. [8]
b) Discuss the future perspectives of Nano Biology and Nano sensors. [7]
- 8 a) What are the Nano material used in Diagnostics and Therapeutic applications? [8]
b) Define Nanotribology and Its Applications. [7]