

Code No: RT41036

R13**Set No. 1**

IV B.Tech I Semester Supplementary Examinations, February - 2019

NANO TECHNOLOGY

(Common to Aeronautical Engineering and Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) Write the applications of nano technology. [4]
- b) Write the limitations of nano materials having thermal properties. [4]
- c) Write the applications of ball milling. [3]
- d) What is meant by Raman spectroscopy? [4]
- e) What are the applications of carbon nano technology? [3]
- f) Write the importance of quantum dots. [4]

PART-B (3x16 = 48 Marks)

2. a) Explain about nano materials. And explain each one of them. [8]
- b) Describe about crystal symmetries. [8]
3. a) Explain the magnetic properties of nano materials. [8]
- b) Write the electrical properties of nano materials. [8]
4. a) Describe about sol gel synthesis and hydro thermal growth. [8]
- b) List out characterization techniques and explain any two of them. [8]
5. a) Explain about scanning electron microscopy. [8]
- b) Describe about photoluminescence spectra. [8]
6. a) Explain about nucleation of diamond. And write its significance. [8]
- b) Describe about grapheme. [8]
7. a) Explain applications of nano technology in surface science. [8]
- b) Explain applications of nano technology in environment. [8]