

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth semester B.Tech degree examinations (S) September 2020

Course Code: CH363**Course Name: PRINCIPLES OF NANOMATERIALS AND NANOTECHNOLOGY**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any two full questions, each carries 15 marks.*

Marks

- 1 a) Define nanotechnology and nanomaterials (5)
- b) Give the classification of nanomaterials (10)
- 2 a) Explain the process of physical vapour deposition with figure (10)
- b) Explain the concept of supramolecular chemistry (5)
- 3 a) Explain the working of SEM with neat sketch (15)

PART B*Answer any two full questions, each carries 15 marks.*

- 4 a) Explain two synthesis methods of nanowires (10)
- b) Explain the concept of self-assembly (5)
- 5 a) Explain the process of chemical vapour deposition (10)
- b) What are carbon nanotubes? (5)
- 6 a) Explain the properties of nanomaterials. (10)
- b) List out the applications of nanomaterials (5)

PART C*Answer any two full questions, each carries 20 marks.*

- 7 a) List and explain five nanomaterials used as nanomedicines (10)
- b) Explain the process of plasma deposition of ultra-thin films (10)
- 8 a) Explain the concept of photonics (10)
- b) List and explain the various nanocomposites (10)
- 9 a) Explain various polymers with special architecture (15)
- b) What are dendrimers? (5)
