|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |

**E Reg. No. :**

**Question Paper Code: 57P01**

Ph.D COURSE WORK EXAMINATION, NOV 2017

Elective

Technology

15PPH103 - SYNTHESIS AND APPLICATIONS OF NANOMATERIALS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | (a) | Discuss about the fabrication of nano particles using sol-gel processing? | CO1- U | (20) |
|  |  | Or |  |  |
|  | (b) | Explain the synthesis and application of conducting nanopolymers? | CO1- U | (20) |
|  |  |  |  |  |
| 2. | (a) | Explain surface template crystallization and nucleation techniques. | CO2- U | (20) |
|  |  | Or |  |  |
|  | (b) | Give special mention about the structure and formation of Langmuir – Blodget film  | CO2- U | (20) |
|  |  |  |  |  |
| 3. | (a) | Discuss in detail about the LASER Deposition technique of synthesis of nanomaterials. | CO3-Ana | (20) |
|  |  | Or |  |  |
|  | (b) | Write in detail about the sputtering techniques of synthesis of nanomaterials. | CO3-Ana | (20) |
|  |  |  |  |  |
| 4. | (a) | Explain various applications of nanoporous materials.  | CO4- U | (20) |
|  |  | Or |  |  |
|  | (b) | Discuss in detail about the synthesis and applications of Tranparent conducting oxides, AgX photography and nano sponges. | CO4- U | (20) |
|  |  |  |  |  |
| 5. | (a) | Demonstrate the applications of molecular electronics in the construction of nanodevices. | CO5-Ana | (20) |
|  |  | Or |  |  |
|  | (b) | Discuss various biological applications Quantum devices.  | CO5-Ana | (20) |
|  |  |  |  |  |