Ref. No. Met/PE/B/T/423B

B.E. METALLURGICAL & MATERIAL ENGG. FOURTH YEAR 2ND. SEM EXAM 2022

Subject : Nanostructured Materials Full Marks: 70

Time: 4 Hours

PART-A (Marks 50)

Q1. Discuss about the different properties of Nanostructured Materials. 10

Answer any two questions:

Q1. Discuss about different Top-Down and Bottom-Up approaches for preparing Nanomaterials. 20

Q2. Discuss about different applications for preparing Nanomaterials. 20

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B.E. METALLURGICAL & MATERIAL ENGINEERING FOURTH YEAR 2ND SEMESTER EXAM 2022

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Time : Four Hours **Full Marks: 70**

Part-B(Marks: 20)

Q. 1 any five(5) 5x2

i). What is Nanocomposite and justify the definition with an example?
ii). State the size limits for various applications of nanocomposites
iii). What properties are substantially improved by nanocomposites?
iv). What are the characterization methods of nanocomposites?
v). Why nanocomposites are better than composites?
vi). What are the types of nanoparticles?
vii). Write the various applications of Sol-Gel Technique

Q.2 Short-notes: any two(2) 2x5

i). Classification of nanocomposites ii). Bio-nanocomposites iii). Co-precipitation technique iv). Advantages and disadvantages of sol-gel technique