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Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Synthesis of Nano Materials

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain different methods synthesis ZnO nanoparticles. Add note on applications of ZnO nanoparticles. (10 Marks)
b. Write a note on potential uses of metal oxide nanoparticles. (10 Marks)

OR

- 2 a. Describe synthesis of semiconductor nanoparticles CdSe and ZnS nanostructure. Mention applications. (10 Marks)
b. Write a note on potential uses of Semiconductor nanoparticles. (10 Marks)

Module-2

- 3 a. Describe potential uses for quantum dots in detail. (10 Marks)
b. Explain synthesis of metal nanoparticles, Ag and Au nanoparticles by chemical method. (10 Marks)

OR

- 4 a. Write a note on the applications of Ag and Au nanoparticles. (10 Marks)
b. Define Quantum dots. Add a note on advantages, disadvantages and applications of quantum dots in Bio – imaging with an example. (10 Marks)

Module-3

- 5 a. Write a note on oxide and nano-oxide nanoparticles with an example each. (10 Marks)
b. Explain the synthesis of magnetite nanoparticle. (10 Marks)

OR

- 6 a. What are magnetosomes? Write a note on the synthesis of magnetosomes by biological method. (10 Marks)
b. Explain potential uses of oxide and non-oxide nanoparticle. (10 Marks)

Module-4

- 7 a. Describe the synthesis of Aluminum phosphates and Iron phosphates (10 Marks)
b. Explain the synthesis of Cobalt and Manganese phosphates. (10 Marks)

OR

- 8 a. Explain the synthesis of zirconium and Titanium phosphates. (10 Marks)
b. Write a note on synthesis of phosphates of Gallium and Indium. (10 Marks)

Module-5

- 9 a. Write a note on advantages, disadvantages and applications of the biological methods involved in the synthesis of nanoparticles. (10 Marks)
b. Explain the steps involved in the synthesis of nanoparticles by making use of Fungi. (10 Marks)

OR

- 10 a. Describe the steps involved in the synthesis of nanoparticles by making use of bacteria. Mention their applications. (10 Marks)
b. Explain about magnetosomes, synthesis and applications. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.