

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

15NT52

Fifth Semester B.E. Degree Examination, July/August 2021 Synthesis of Nanomaterials

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1 a. Define Metal oxide and Semiconductor nanoparticles. Explain the procedure involved in the synthesis of CdO and AgO nanoparticles. (10 Marks)
b. Discuss any two methods involved in synthesis of Al_2O_3 nanoparticles. Mention applications. (06 Marks)
- 2 a. Describe synthesis of semiconductor nanoparticles CdS and TiO_2 nanostructures. Mention their applications. (08 Marks)
b. Describe synthesis of semiconductor nanoparticles CdSe and ZnS nanostructures. Mention their applications. (08 Marks)
- 3 a. Define Quantum dots. Add a note on advantages, disadvantages and applications of quantum dots in Bio-imaging with an example. (10 Marks)
b. Explain synthesis of AgS nanostructures. Add a note on advantages and drawbacks of AgS nanostructures. (06 Marks)
- 4 a. Describe potential uses for quantum dots in Electronics and Biomedical fields. (08 Marks)
b. Write a note on the applications of Ag and Au nanoparticles. (08 Marks)
- 5 a. Write a short note on oxide and non-oxide nanoparticles with an example each. (08 Marks)
b. Explain the synthesis of magnetite nanoparticles. (08 Marks)
- 6 a. What are magnetosomes? Write a note on the synthesis of magnetosomes by biological method. (06 Marks)
b. Explain potential uses of oxide and non-oxide nanoparticles. (10 Marks)
- 7 a. Define Nanoporous materials. Add a note on advantages, disadvantages and applications of nanoporous materials. (08 Marks)
b. Describe the procedures for synthesis of Aluminium phosphates and Iron phosphates. (08 Marks)
- 8 a. Explain the synthesis of Copper and Nickel-phosphate nanoparticles. (08 Marks)
b. Explain the potential uses of nanoporous materials. (08 Marks)
- 9 a. Write a note on advantages, disadvantages and applications of the biological methods involved in the synthesis of nanoparticles. (06 Marks)
b. Describe the steps involved in the synthesis of nanoparticles by making use of bacteria. Mention their applications. (10 Marks)
- 10 a. Describe the steps involved in the synthesis of nanoparticles by making use of fungi. (08 Marks)
b. Write a short note on magnetotactic bacteria for natural synthesis of magnetic nanoparticles. Mention their applications. (08 Marks)

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.