

Model Question Paper-1

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Fifth Semester B.E. Degree Examination Synthesis of Nanomaterials

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1			
Q.1	(a)	Define Metal oxide and Semiconductor nanoparticles. Explain the procedure involved in the synthesis of CdO and AgO nanoparticles.	10
	(b)	Explain different methods to synthesis ZnO nanoparticles. Add note on applications of ZnO nanoparticles.	10
OR			
Q.2	(a)	Describe synthesis of Semiconductor nanoparticles CdS, CuS and TiO ₂ nanostructures. Mention their applications.	12
	(b)	Write a note on potential uses of metal-oxide nanoparticles.	08
Module – 2			
Q.3	(a)	Define Quantum Dots. Add a note on advantages, disadvantages and applications of quantum dots in Bio-imaging with an example.	10
	(b)	Write a short note on oxide and non-oxide nanoparticles with an example each.	10
OR			
Q.4	(a)	Write a note on the applications of Ag and Au nanoparticles.	10
	(b)	What are methods we can use for the synthesis of ZnS nanostructures? Add a note on advantages, disadvantages and applications of ZnS nanostructures.	10
Module – 3			
Q.5	(a)	Write a short note on oxide and non-oxide nanoparticles with an example each.	10

	(b)	Describes the steps involved in the synthesis of CoFe_2O_4 , MnFe_2O_4 and CoCrFeO_4 nanoparticles.	10
OR			
Q.6	(a)	Explain potential uses of oxide and non-oxide nanoparticles.	10
	(b)	What are magnetosomes? Write a note on the synthesis of magnetosomes by biological method.	10
Module – 4			
Q.7	(a)	Describe the synthesis of Aluminium phosphates and Iron phosphates.	10
	(b)	Write a note on synthesis of phosphates of Gallium and Indium.	10
OR			
Q.8	(a)	Explain the synthesis of Copper and Nickel phosphates.	10
	(b)	Write a note on synthesis of Aluminosilicate Zeolites. Add a note on application of Aluminosilicate Zeolites.	10
Module – 5			
Q.9	(a)	Describe the steps involved in the synthesis of nanoparticles by making use of Bacteria. Mention their applications.	12
	(b)	Describe the steps involved in green synthesis of nanoparticles.	08
OR			
Q.10	(a)	Describe the steps involved in the synthesis of nanoparticles by making use of Fungi.	10
	(b)	Write a short note on Magnetotactic bacteria for natural synthesis of magnetic nanoparticles. Mention their applications.	10

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome				
Question		Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	L ₁ , L ₂ , L ₃	1	1,5,12
	(b)	L ₁ , L ₂ , L ₃	1	1,5,12
	(c)	L ₁ , L ₂ , L ₃	1	1,5,12
Q.2	(a)	L ₁ , L ₂ , L ₃	1	1,5,12
	(b)	L ₁ , L ₂ , L ₃	1	1,5,12
	(c)	L ₁ , L ₂ , L ₃	1	1,5,12
Q.3	(a)	L ₁ , L ₂ , L ₃	2	1,5,12
	(b)	L ₁ , L ₂ , L ₃	2	1,5,12
Q.4	(a)	L ₁ , L ₂ , L ₃	2	1,5,12
	(b)	L ₁ , L ₂ , L ₃	2	1,5,12
Q.5	(a)	L ₁ , L ₂ , L ₃	3	1,5,12
	(b)	L ₁ , L ₂ , L ₃	3	1,5,12
	(c)	L ₁ , L ₂ , L ₃	3	1,5,12
Q.6	(a)	L ₁ , L ₂ , L ₃	3	1,5,12
	(b)	L ₁ , L ₂ , L ₃	3	1,5,12
	(c)	L ₁ , L ₂ , L ₃	3	1,5,12
Q.7	(a)	L ₁ , L ₂ , L ₃	4	1,5,12
	(b)	L ₁ , L ₂ , L ₃	4	1,5,12
	(c)	L ₁ , L ₂ , L ₃	4	1,5,12
Q.8	(a)	L ₁ , L ₂ , L ₃	4	1,5,12
	(b)	L ₁ , L ₂ , L ₃	4	1,5,12
	(c)	L ₁ , L ₂ , L ₃	4	1,5,12
Q.9	(a)	L ₁ , L ₂ , L ₃	5	1,5,12
	(b)	L ₁ , L ₂ , L ₃	5	1,5,12
Q.10	(a)	L ₁ , L ₂ , L ₃	5	1,5,12
	(b)	L ₁ , L ₂ , L ₃	5	1,5,12
Bloom's Taxonomy Levels	Lower order thinking skills			
	Remembering(knowledge):L ₁	Understanding Comprehension): L ₂	Applying (Application): L ₃	
	Higher order thinking skills			
	Analyzing (Analysis): L ₄	Valuating (Evaluation): L ₅	Creating (Synthesis): L ₆	



Model Question Paper-2

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Fifth Semester B.E. Degree Examination Synthesis of Nanomaterials

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1			
Q.1	(a)	Write a note on synthesis CuO nanoparticles. Add a note on Advantages and Drawbacks CuO nanoparticles.	10
	(b)	Describe synthesis of Semiconductor nanoparticles CdSe and ZnS nanostructures. Mention their applications.	10
OR			
Q.2	(a)	Describe synthesis of Semiconductor nanoparticles Cu ₂ S, PbS and ZnO nanostructures. Mention their applications.	12
	(b)	Write a note on potential uses of semiconductor nanoparticles.	08
Module – 2			
Q.3	(a)	What are methods we can use for the synthesis of ZnS nanostructures? Add a note on advantages, disadvantages and applications of ZnS nanostructures.	10
	(b)	Describe potential uses for quantum dots in detail.	10
OR			
Q.4	(a)	Explain synthesis of metal nanoparticles- Ag and Au nanoparticles by chemical method.	10
	(b)	Explain synthesis of metal nanoparticles- Fe and Pt nanoparticles by chemical method.	10
Module – 3			
Q.5	(a)	Explain the synthesis of magnetite nanoparticles. Mention applications.	10

	(b)	Write a short note on oxide and non-oxide nanoparticles with an example each.	10
OR			
Q.6	(a)	Explain potential uses of oxide and non-oxide nanoparticles.	10
	(b)	What are magnetosomes? Write a note on the synthesis of magnetosomes by biological method.	10
Module – 4			
Q.7	(a)	Write a note on synthesis of Aluminosilicate Zeolites. Add a note on application of Aluminosilicate Zeolites.	10
	(b)	Explain the synthesis of Copper and Nickel phosphates.	10
OR			
Q.8	(a)	Describe the synthesis of Aluminium phosphates and Iron phosphates.	10
	(b)	Write a note on synthesis of phosphates of Gallium and Indium.	10
Module – 5			
Q.9	(a)	Describe the steps involved in the synthesis of nanoparticles by making use of Fungi. Mention their applications.	12
	(b)	Write a short note on Magnetotactic bacteria for natural synthesis of magnetic nanoparticles. Mention their applications.	08
OR			
Q.10	(a)	Describe the steps involved in the synthesis of nanoparticles by making use of bacteria.	10
	(b)	Describe the steps involved in green synthesis of nanoparticles.	10

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome				
Question		Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	L ₁ , L ₂ , L ₃	1	1,5,12
	(b)	L ₁ , L ₂ , L ₃	1	1,5,12
	(c)	L ₁ , L ₂ , L ₃	1	1,5,12
Q.2	(a)	L ₁ , L ₂ , L ₃	1	1,5,12
	(b)	L ₁ , L ₂ , L ₃	1	1,5,12
	(c)	L ₁ , L ₂ , L ₃	1	1,5,12
Q.3	(a)	L ₁ , L ₂ , L ₃	2	1,5,12
	(b)	L ₁ , L ₂ , L ₃	2	1,5,12
Q.4	(a)	L ₁ , L ₂ , L ₃	2	1,5,12
	(b)	L ₁ , L ₂ , L ₃	2	1,5,12
Q.5	(a)	L ₁ , L ₂ , L ₃	3	1,5,12
	(b)	L ₁ , L ₂ , L ₃	3	1,5,12
	(c)	L ₁ , L ₂ , L ₃	3	1,5,12
Q.6	(a)	L ₁ , L ₂ , L ₃	3	1,5,12
	(b)	L ₁ , L ₂ , L ₃	3	1,5,12
	(c)	L ₁ , L ₂ , L ₃	3	1,5,12
Q.7	(a)	L ₁ , L ₂ , L ₃	4	1,5,12
	(b)	L ₁ , L ₂ , L ₃	4	1,5,12
	(c)	L ₁ , L ₂ , L ₃	4	1,5,12
Q.8	(a)	L ₁ , L ₂ , L ₃	4	1,5,12
	(b)	L ₁ , L ₂ , L ₃	4	1,5,12
	(c)	L ₁ , L ₂ , L ₃	4	1,5,12
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Bloom's Taxonomy Levels	Lower order thinking skills			
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	Higher order thinking skills			
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