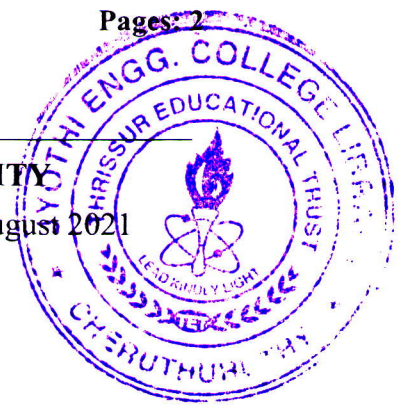


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
 Seventh Semester B.Tech Degree Supplementary Examination August 2021



Course Code: MR403

Course Name: NANOTECHNOLOGY

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

		Marks
1	Compare the characteristics of SEM and TEM.	(5)
2	Write short notes on nanofillers.	(5)
3	Analyze the microfabrication methods.	(5)
4	Synthesize MEMS and NEMS	(5)
5	Enumerate mechanical and chemical nanostructure fabrication methods.	(5)
6	Examine self-assembled nano layers.	(5)
7	Analyze how the surface to volume ratio will make an impact on nanomaterial properties?	(5)
8	Write a short note on dendrimers.	(5)

PART B

Answer any three full questions, each carries 10 marks.

9	a) Relate the size of nanodot to energy level and emission of colour.	(10)
10	a) With the relevant sketch, explain how the golden nanoparticle is synthesized using chemical vapor deposition method.	(10)
11	a) What is SEM?	(2)
	b) Explain the detailed operation of SEM.	(8)
12	a) Make a short note on Nanofluids.	(5)
	b) Discuss about Nanocluster.	(5)
13	a) Outline the advantage and applications of nanotechnology	(3)
	b) Rewrite the preparation methods of silver nanomaterial	(4)
	c) Elucidate how the images are produced in AFM	(3)

PART C

Answer any two full questions, each carries 15 marks.

14	a) What are nanobots?	(5)
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- b) With the detailed application explain about nano-biotechnology. (5)
- c) Narrate the importance of nano-sensor in the medical sector (5)
- 15 a) Illustrate the operation of Nanolithography. (5)
- b) List the photo resist materials types and explain it in detail (10)
- 16 a) With the neat sketch, explain any two methods of soft lithography. (8)
- b) Examine bio-nanotechnology with examples (7)
- 17 a) Recognize the functional process of the drug delivery system (7)
- b) Write short notes on: (8)
 - 1) Nanoelectronics
 - 2) Nanomedicine
