

<b>St. Peter’s Engineering College (Autonomous)</b> <b>Dullapally (P), Medchal, Hyderabad – 500100.</b> <b>II - Mid Term Examination – JUNE 2024</b>					Dept.	:	S&H	
					Academic Year 2023-24			
Subject Code	:	AS22-00BS11	Subject	:	Applied Physics			
Class/Section	:	B. Tech. (A)	Year	:	I	Semester	:	II
Duration	:	120 Min	Max. Marks	:	30	Date:	:	

BLOOMS LEVEL					
Remember	L1	Understand	L2	Apply	L3
Analyze	L4	Evaluate	L5	Create	L6

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**PART – A (10x1M = 10M)****Note: Answer all Questions. Each Question carries equal marks.**

Q. No	Question (s)	Marks	BL	CO
<b>UNIT - IV</b>				
<b>1</b>	a) What is nanoscience and nanotechnology?	1M	L1	C122.4
	b) What is surface to volume ratio?	1M	L2	C122.4
	c) What are the applications of nanomaterials?	1M	L1	C122.4
	d) Discuss the quantum confinement?	1M	L2	C122.4
	<b>UNIT – V</b>			
	e) What are the characteristics of LASER?	1M	L1	C122.5
	f) Explain the phenomenon of population inversion?	1M	L2	C122.5
	g) What are the main sections of an optical fiber?	1M	L1	C122.5
	h) What do you mean by the acceptance angle for an optical fiber?	1M	L2	C122.5
	<b>UNIT – III</b>			
	i) What is the magnetostriction?	1M	L2	C122.3
	j) Define Meissner effect?	1M	L2	C122.3

**PART – B (20M)**

Q. No	Question (s)	Marks	BL	CO
<b>UNIT - IV</b>				
<b>2</b>	a) Differentiate between top-down and bottom-up method of nanoparticle synthesis?	4M	L2	C122.4
	b) Describe ball milling method used for nanoparticle synthesis?	4M	L3	C122.4
<b>OR</b>				

3	a) Discuss briefly about the SEM technique for characterizing the nano materials?	8M	L3	C122.4
UNIT – V				
4	a) What are Einstein's coefficients? Find the relation between them?	4M	L2	C122.5
	b) Discuss the types of Optical fibers?	4M	L2	C122.5
OR				
5	a) Explain the construction and working of He-Ne Laser?	8M	L3	C122.5
UNIT – III				
6	a) Explain ferromagnetism. What is hysteresis?	4M	L3	C122.3
OR				
7	a) Distinguish the Type I and Type II Super Conductors?	4M	L3	C122.3

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