[B19 BS 1103]

I B. Tech I Semester (R19) Regular Examinations
ENGINEERING PHYSICS
(Common to CE & ME)
MODEL QUESTION PAPER

TIME: 3 Hrs. **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT**
All questions carry equal marks
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			CO	KL	M
		UNIT - I			
1.	a).	What is a Bravais Lattice and explain the Bravais lattice in different Crystal systems.	1	2	9
	b).	Deduce the Bragg's Law.	1	3	6
		OR			
2.	a).	How the nano materials can be produced by sol – gel method.	1	2	7
	b).	Write abt Carbon Nanotubes	1	2	4
	C).	Discuss some important applications of nanomaterials.	1	1	4
		UNIT - II			
3.	a).	Define Reverberation and obtain the Sabine's formula.	4	3	9
	b).	Explain the requirements of an acstics calling good hall	4	2	6
		OR			
4.	a).	Explaining Magnetostriction effect, describe how the ultrasonics can be produced.	6	3	9
	b).	Mention the application of ultrasonics.	6	1	6
		UNIT - III			
5.	a).	Distinguish between elastict and plasticts	3	1	4
	b).	State and explain the Hooke's law	3	2	5
	C).	Discuss the bending moment of a beans	3	2	6
		OR			
6.	a).	Explain the stress – strain curve of an isotropic material	3	2	7
	b).	What are the different types of moduli of solids and obtain their relations	3	2	8
		UNIT - IV			
7.	a).	Define polarization and explain the different types of polarization possible in a dielectric	5	2	7
	b).	Deduce the Claussius Mosotti & equation and its significance in dielectrics.	5	3	8
		OR			
8.	a).	Define Magnetic susceptibility and give a classification of magnetic materials.	5	1	5
	b).	Describe the Hysteresis exhibited by Ferromagnetic materials and explain its using a Suitable theory	5	3	10

		UNIT - V			
9.	a).	Give the selection procedure of the active medium of laser device.	6	2	7
	b).	With suitable diagrams, discuss the working principle, design and working of He – Ne laser system	6	2	8
		OR			
10.	a).	What is the significance of Numerical Aperture of an optical fiber and obtain an expression for it.	6	2	8
	b).	Discuss the sensor applications of optical fiber.	6	2	7