



I B. Tech II Semester Supplementary Examinations, January/February - 2023 ENGINEERING PHYSICS

(Common to AE, AME, Bio-Tech, Chem E, CE, ME, Metal E, Min E, PCE, PE)

	Т	ime: 3 hours Max. Marks: 7	Max. Marks: 70	
		Note: 1. Question Paper consists of two parts (Part-A and Part-B) 2. Answering the question in Part-A is Compulsory 3. Answer any FOUR Questions from Part-B		
 <u>PART –A (14 Marks)</u>				
1.	a)	Write the principle of superposition?	[2M]	
	b)	What is meant by diffraction of light?	[2M]	
	c)	Distinguish between polarized light and un polarized light?	[2M]	
	d)	Write the industrial applications of ultrasonics?	[2M]	
	e)	State the Bragg's law?	[2M]	
	f)	What is hysteresis loop?	[2M]	
	g)	Why magnetic susceptibility of dia magnetic materials is negative?	[2M]	
	U,	<u>PART –B (56 Marks)</u>		
2.	a)	Write the experimental setup and theory to determine the radius of curvature of lens using Newton rings method?	[10M]	
	b)	The diameter of the 5 th bright ring in Newton rings experiment is $4x10^{-3}$ m. Find the radius of curvature of the lens used, if the wavelength of light is 589 nm.	[4M]	
3.	a)	Discuss in detail Fraunhofer diffraction due to double slit and draw the intensity distribution curve?	[10M]	
	b)	Write the difference between interference and diffraction?	[4M]	
4.	a)	With a neat diagram, explain the construction and working of He-Ne laser?	[9M]	
	b)	Briefly explain the different types of polarization?	[5M]	
5.	a)	What are Ultrasonics? Explain a method with a neat diagram to produce ultrasonics?	[9M]	
	b)	Write the requirements to construct a good acoustic concert-hall?	[5M]	
6.	a)	With a neat block diagram, write the principle and working of fast bread reactor?	[9M]	
	D)	Define packing fraction and coordination number?	[SM]	
7.	a)	Derive the Debye's equation along with the Clausius-Mosotti quation in dielectrics?	[9M]	
	b)	Write the applications of magnetic materials?	[5M]	

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