Course Code: 1920006 **MLRITM-R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

I B.Tech II Sem Regular Examination, October/November 2020

APPLIED PHYSICS

(EEE, CSE & IT)

Time: 2 Hours. **Max. Marks: 70**

Note: 1. Answer any FIVE questions.
2. Each question carries 14 marks and may have a, b as sub questions.

1	a)	Discuss Black body radiation.	7M
	b)	Derive Schrodinger's time independent wave equation.	7M
2		Describe Davisson & Germer's experiment with neat diagrams and explain how it enabled the verification of wave nature of matter?	14M
3	a)	What is Hall effect? Derive an expression for Hall coefficient.	7M
	b)	With neat diagram, explain construction and working principle of Bipolar Junction Transistor (BJT).	7M
4		Explain with neat diagrams, the construction and working of solar cell in terms of characteristics.	14M
5	a)	With plots explain V-I characteristics of a Zener diode in both biasing conditions.	7M
	b)	Illustrate working of PIN diode.	7M
6		With the help of suitable diagram, explain the principle, construction and working of CO_2 laser.	14M
7	a)	Derive an expression for acceptance angle in optical fiber and how is it related with numerical aperture.	7M
	b)	Write a note on Ampere's and Faraday's laws.	7M
8		Derive an expression for Internal fields in a solid.	14M

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