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Supplementary/ Improvement Examination 2024 (For Even Semester 2024)

Paper Name: Applied Physics-II
Paper Code: BTCSE 201/ BTECE 201/ BTCSEAI 201
Time: 2.5 Hours

Roll no. _____

Maximum Marks: 60

Section A (4 × 5 = 20)

Attempt ALL questions

Q.No.	Questions	Marks	CO	BL
1	What are the applications of the optoelectronic devices - solar cell and photodiode?	5	1	1
2	What is Heisenberg's Uncertainty Principle?	5	3	2
3	What are damped and forced oscillations?	5	4	1
4	What is X-ray diffraction?	5	5	2

Section B (4 × 10 = 40)

Attempt any FOUR questions

Q.No.	Questions	Marks	CO	BL
1	(i) Draw the circuit diagram and VI-characteristics of LED. (ii) Explain the working principle of LED.	10	1	3
2	(i) What is Lorentz force? (ii) Explain the construction and working mechanism of the velocity selector device.	10	2	2
3	(i) What is the inconsistency in Ampere's law? (ii) What is the modification done to fix the inconsistency in Ampere's law?	10	2	2
4	Derive the eigenfunction and energy eigenvalue of n^{th} eigenstate for a particle in a one-dimensional box in Quantum Mechanics.	10	3	4
5	Derive the displacement-time relation for a simple harmonic motion by solving second order differential equation for forces acting on the system.	10	4	4
6	(i) What are X-rays? (ii) What are the properties of X-rays? (iii) Mention some of the applications of X-rays.	10	5	1

BL - Bloom's Taxonomy Levels (1-Remembering, 2-Understanding, 3-Applying, 4-Analysing, 5-Evaluating, 6-Creating)

CO – Course Outcomes