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Department of Basic Sciences - Physics

Sl. No.	**Question Bank** **Module-2: Quantum Mechanics**	COs	RBT Levels	Marks
1	What are matter waves? Derive an expression for de Broglie wavelength. Mention different forms for de Broglie wavelength.	CO2	L2	6
2	State and explain Heisenberg's Uncertainty Principle and principle ofcomplementarity.	CO2	L2	7
3	Show that electron does not exit inside the nucleus using Heisenberg's Uncertaintyprinciple.	CO2	L2	6
4	Define Phase velocity and group velocity.	CO2	L1	4
5	Derive Time independent Schrodinger Wave Equation in one dimension.	CO2	L2	8
6	What is wave function? Give its physical significance and properties.	CO2	L2	6
7	Obtain the expression for Eigen value and Eigen function for particle in a box.	CO2	L3	8
8	Discuss the wave functions, probability densities and energy level for a particle in a box by considering the ground state and the first two excited state.	CO2	L3	8