

CURRICULUM PLAN 2024-25 (Odd Semester: V)
B. Sc. (HONS.) PHYSICS

DISCIPLINE SPECIFIC CORE PAPER
DSC-14: QUANTUM MECHANICS – I
Teacher: Prof. Sudha Gulati

Topic	Allocation of Lectures	Month wise schedule followed by the Department	Tutorial/Assignment/ Presentation etc.
I. Square well, operators, Commutator, Expectation value, Gaussian Wave packet, Superposition principle	10 lectures	Aug	Problems on wave function, square well, operators Assignment 1
II. Solution of 1-D Simple harmonic oscillator (Ladder Operator and using Hermite polynomial), Uncertainty principle	8 lectures	September	Problems related to Simple harmonic oscillator and uncertainty principle Test 1
III. Probability density, Solution of Schrodinger equation for hydrogen atom, Angular momentum, Radial wave function, Quantum numbers	15 Lectures	September - Oct	Related Problems of wave function, Hydrogen atom and quantum numbers Assignment 2
IV. Commutation relations of Angular momentum, Concept of spin, Total angular momentum, ladder operators, Pauli matrices, Addition of angular momenta	12 lectures	November	Related conceptual problems Revision of whole syllabus Test