

**CURRICULUM PLAN 2025-26 (Odd Semester: V)**  
**B. Sc. (HONS.) PHYSICS**

**DISCIPLINE SPECIFIC CORE PAPER**  
**DSC-14: QUANTUM MECHANICS – I**

**Teacher: Prof. Sudha Gulati**

<b>Topic</b>	<b>Allocation of Lectures</b>	<b>Month wise schedule followed by the Department</b>	<b>Tutorial/Assignment/ Presentation etc.</b>
<b>I.</b> Square well, operators, Commutator, Expectation value, Gaussian Wave packet, Superposition principle	10 lectures	Aug	Problems on wave function, square well, operators Assignment 1
<b>II.</b> 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
<b>III.</b> 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
<b>IV.</b> 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