



# Physics by fiziks

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## Study Plan of Quantum Mechanics for Pre-recorded Batches

(For NET-JRF, GATE, JEST, TIFR Aspirant and M.Sc Students)

Days	Enter Your Dates	Topics
Day: 1		Lecture 1: Prerequisite of Q.M. Part-1
		Lecture 2: Prerequisite Q.M. Part-2
Day: 2		Lecture 3: Introduction of Q.M.
		Lecture 4: Hilbert space Part-1
Day: 3		Lecture 5: Hilbert Space Part-2 & Dirac Notation
		Lecture 6: Operators and Matrices
Day: 4		Lecture 7: Operators and Commutator
		Lecture 8: Postulates of Q.M. Part-1
		<b>Solve Assignment No. 1: Tools of Quantum Mechanics (Lect-1 to Lect-7)</b>
Day: 5		Lecture 9: Postulates of Q.M. Part-2
		Lecture 10: Postulates of Q.M. Part-3
		Lecture 11: Postulates of Q.M. Part-4
		<b>Solve Assignment No. 2: Postulates of Quantum Mechanics (Lect-8 to Lect-11)</b>
Day: 6		<b>Revision</b>
Day: 7		<b>Class Test 1: Tool and Postulates (Lect-1 to Lect-11)</b>
Day: 8		Lecture 12: Free Particles
		Lecture 13: Step Potential
Day: 9		Lecture 14: Particle in Box
		Lecture 15: Finite Potential
		<b>Solve Assignment No. 3: Particle in One-Dimensional Infinite Box (Lect-12 to Lect-14)</b>
Day: 10		Lecture 16: Problems
		Lecture 17: Harmonic Oscillator
		<b>Solve Assignment No. 4: Finite Potential (Lect-15 to Lect-16)</b>
Day: 11		Lecture 18: Problem on H.O. Part-1
		Lecture 19: Problems on H.O. Part-2
Day: 12		Lecture 20: 2D and 3D System
		Lecture 21: Angular Momentum
		<b>Solve Assignment No. 5: Harmonic Oscillator (Lect-17 to Lect-20)</b>
Day: 13		<b>Revision</b>
Day: 14		<b>Class Test 2: Particle in Box (Lect-12 to Lect-19)</b>
Day: 15		Lecture 22: Angular Momentum Algebra
		Lecture 23: Problems on Angular Momentum
Day: 16		Lecture 24: Spin
		Lecture 25: Problem on Spin
Day: 17		Lecture 26: Radial Wavefunction
		Lecture 27: Hydrogen Atom Part-1
Day: 18		Lecture 28: Hydrogen Atom Part-2
		Lecture 29: Variational Principle Part-1
		<b>Solve Assignment No. 6: Spherical Symmetric System (Lect-21 to Lect-28)</b>
Day: 19		Lecture 30: Variational Principle Part-2
		Lecture 31: WKB
		<b>Solve Assignment No. 8: Variational Principle (Lect-29 to Lect-30)</b>

Day: 20		<b>Solve Assignment No. 9: WKB Approximation (Lect-31)</b>
Day: 21		<b>Class Test 3: 2D and 3D system (Lect-20 to Lect-28)</b>
Day: 22		Lecture 32: Non-Degenerate Perturbation Part-1
		Lecture 33: Non-Degenerate Perturbation Part-2
Day: 23		Lecture 34: Degenerate Perturbation Part-1
		Lecture 35: Degenerate Perturbation Part-2
Day: 24		Lecture 36: Time Dependent Perturbation
		Lecture 37: Quantum Mechanical Scattering Part-1
		<b>Solve Assignment No. 7: Non-degenerate &amp; Degenerate Perturbation (Lect-32 to Lect-36)</b>
Day: 25		Lecture 38: Quantum Mechanical Scattering Part-2
		Lecture 39: Quantum Mechanical Scattering Part-3
		<b>Solve Assignment No. 11: Scattering (Lect-37 to Lect-39)</b>
Day: 26		Lecture 40: Relativistic QM Part-1
		Lecture 41: Relativistic QM Part-2
		<b>Solve Assignment No. 10: Relativistic Quantum Mechanics (Lect-40 to Lect-41)</b>
Day: 27		<b>Class Test 4: Variational Principle (Lect-29 to Lect-36)</b>
Day: 28		<b>Class Test 5: Scattering to Relativistic Q.M (Lect-37 to Lect-41)</b>