Physics by fiziks

Now at your home 2025

"Discipline is the Bridge between Goal and Success"

Study Plan of Classical Mechanics for Pre-recorded Batches

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

Days	Enter Your Dates	Topics : 2. Classical Mechanics
		PART-A: Classical Mechanics
Day1		Lecture 1: Stability Analysis (Part - 1) (Classical Mechanics)
		Lecture 2: Stability Analysis (Part - 2) (Classical Mechanics)
Day2		Lecture-3A Phase Space Dynamics Part 1 (Classical Mechanics)
		Lecture-3B Phase Space Dynamics Part 2 (Classical Mechanics)
Day3		Lecture-3C Phase Space Dynamics Part 3 (Classical Mechanics)
		Lecture 4: Phase Trajectory (Part - 2) (Classical Mechanics)
Day4		Lecture 5: Phase Trajectory (Part - 3) (Classical Mechanics)
		Lecture 6: Phase Trajectory (Part - 4) (Classical Mechanics)
Day5		Lecture 7: Central Force and Effective Potential (Classical Mechanics)
		Lecture 8: Analysis of Effective Potential (Part - 1) (Classical Mechanics)
Day6		Lecture 9: Analysis of Effective Potential (Part - 2) (Classical Mechanics)
		Lecture 10: Differential Equation of the Orbit and Numericals (Classical Mechanics)
Day7		Lecture 11: Kepler's Laws (Classical Mechanics)
		Lecture 12: Kepler's Laws, Virial Theorem (Classical Mechanics)
Day8		Lecture 13: Gravitation Part - 1 (Classical Mechanics)
		Lecture 14: Gravitation Part - 2 (Classical Mechanics)
Day9		Lecture 15: Gravitation Part - 3 (Classical Mechanics)
		Lecture 16: Gravitation Part - 4 (Classical Mechanics)
Day10		Lecture 17: Gravitational Part - 5 (Classical Mechanics)
		Class Test 1: Central Force (Classical Mechanics)
Day11		Lecture 18: Lagrangian Formulation - 1 (Classical Mechanics)
		Lecture 19: Lagrangian Formulation - 2 (Classical Mechanics)
Day12		Lecture 20: Lagrangian Formulation - 3 (Classical Mechanics)
		Lecture 21: Lagrangian Formulation - 4 (Classical Mechanics)
Day13		Lecture 22: Lagrangian Formulation - 5 (Classical Mechanics)
		Lecture 23: Lagrangian Formulation - 6 (Classical Mechanics)
Day14		Lecture 24: Lagrangian Formulation - 7 (Classical Mechanics)
		Lecture 25: Lagrangian Formulation - 8 (Classical Mechanics)
Day15		Lecture 26: Lagrangian Formulation - 9 (Classical Mechanics)
		Lecture 27: Lagrangian Formulation - 10 (Classical Mechanics)
		Class Test 2: Lagrangian Formalism (Classical Mechanics)
Day16		Lecture 28: Hamiltonian Formulation - 1 (Classical Mechanics)
		Lecture 29: Hamiltonian Formulation - 2 (Classical Mechanics)

Days	Enter Your Dates	Topics : 2. Classical Mechanics
		PART-A: Classical Mechanics
Day17		Lecture 30: Hamiltonian Formulation - 3 (Classical Mechanics)
		Lecture 31: Hamiltonian Formulation - 4 (Classical Mechanics)
Day18		Lecture 32: Poisson's Bracket - 1 (Classical Mechanics)
		Lecture 33: Poisson's Bracket - 2 (Classical Mechanics)
Day19		Lecture 34: Poisson's Bracket - 3 (Classical Mechanics)
		Lecture 35: Canonical Transformation (Classical Mechanics)
Day20		Lecture 36: Action angle variable (Classical Mechanics)
		Lecture 37: Generating Functions - 1 (Classical Mechanics)
Day21		Lecture 38: Generating Functions - 2 (Classical Mechanics)
		Class Test 3: Hamiltonian Formulism, (Classical Mechanics)
		Class Test 4: Poisson Bracket, generating function and canonical transformation (Classical Mechanics)
Day22		Lecture 39: Small Oscillations - 1 (Classical Mechanics)
		Lecture 40: Small Oscillations - 2 (Classical Mechanics)
Day23		Lecture 41: Small Oscillations - 3 (Classical Mechanics)
		Lecture 42: Small Oscillations - 4 (Classical Mechanics)
		Class Test 5: Small Oscillations, Phase Curve and Stability Analysis (Classical Mechanics)
Day24		Lecture 43: Moment of Inertia - 1 (Classical Mechanics)
		Lecture 44: Moment of Inertia - 2 (Classical Mechanics)
Day25		Lecture 45: Moment of Inertia - 3 (Classical Mechanics)
		Lecture 46: Moment of Inertia Tensor - 1 (Classical Mechanics)
Day26		Lecture 47: Moment of Inertia Tensor - 2 (Classical Mechanics)
		Lecture 48: Moment of Inertia Tensor - 3 (Classical Mechanics)
Day27		Lecture 49: Moment of Inertia Tensor - 4 (Classical Mechanics)
		Lecture 50: Rigid body dynamics - 1 (Classical Mechanics)
Day28		Lecture 51: Rigid body dynamics - 2 (Classical Mechanics)
		Lecture 52: Rigid body dynamics - 3 (Classical Mechanics)
Day 29		Lecture 53: Rigid body dynamics - 4 (Classical Mechanics)
		Class Test 6: Rotational Dynamics (Classical Mechanics)
Day30		Lecture 54: Centre of Mass - 1 (Classical Mechanics)
		Lecture 55: Centre of Mass - 2 (Classical Mechanics)
Day31		Lecture 56: Centre of Mass - 3 (Classical Mechanics)
		Lecture 57: Angular momentum - 1 (Classical Mechanics)
Day32		Lecture 58: Angular momentum - 2 (Classical Mechanics)
		Lecture 59: Torque -1 (Classical Mechanics)
Day33		Lecture 60: Torque and rotational K E (Classical Mechanics)
		Lecture 61: Rolling motion - 1 (Classical Mechanics)
Day34		Lecture 62: Rolling motion - 2(Classical Mechanics)
		Lecture 63: 2D motion in polar coordinates -1 (Classical Mechanics)

Days	Enter Your Dates	Topics : 2. Classical Mechanics
		PART-A: Classical Mechanics
		Lecture 64: 2D motion in polar coordinates -2 **(End of Classical Mechanics)**
		Part (B) Special Theory of Relativity
Day35		Lecture 1: Introduction of STR (Einstein's Postulates) (Special Theory of Relativity)
		Lecture 2: Numerical Problems (1D Velocity Addition) (Special Theory of Relativity)
Day36		Lecture 3: Lorentz Transformations (Special Theory of Relativity)
		Lecture 4: Length Contraction and Time-dilation (Special Theory of Relativity)
Day37		Lecture 5: Questions of LC and TD (Part - 1) (Special Theory of Relativity)
		Lecture 6: Questions of LC and TD (Part - 2) (Special Theory of Relativity)
Day38		Lecture 7: Relativistic addition of velocities (Special Theory of Relativity)
		Lecture 8: Relativistic mass, momentum and energy (Special Theory of Relativity)
Day39		Lecture 9: Numerical Problems (Energy and Momentum) (Special Theory of Relativity)
		Lecture 10: Energy and Momentum Transformation (Special Theory of Relativity)
Day40		Lecture 11: Relativistic Doppler's Effect (Special Theory of Relativity)
		Lecture 12: Minkowski's space and Lorentz Transformation (Special Theory of Relativity)
Day41		Lecture 13: Four Vectors and Relativistic Electrodynamics (Special Theory of Relativity)
		Lecture 14: Electric and magnetic transformation numericals (Special Theory of Relativity)
Day42		Lecture 15: Space-time diagram (Part - 1) (Special Theory of Relativity)
		Lecture 16: Space-time diagram (Part - 2) **(End of Special Theory of Relativity)**
		Class Test 7: Special Theory of Relativity (Classical Mechanics)