



# Physics by fiziks

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**"Discipline is the Bridge between Goal and Success"**

## Study Plan of Kinetic theory, Thermodynamics for Pre-recorded Batches

(For IIT-JAM, JEST, TIFR and M.Sc Entrance and B.Sc Students)

Days	Enter Your Dates	Topics
Day: 1		Lecture 1: Kinetic Theory of Gases Introduction
		Lecture 2: KTG-Kinetic Interpretation of Temperature
Day: 2		Lecture 3: KTG -Degree of Freedom
		Lecture 4: Real Gases Introduction
Day: 3		Lecture 5: Real Gas- Critical Constants
		Lecture 6: Density of States 1D
		<b>Solve Assignment No.1: Kinetic Theory of Gases (Lect-1 to Lect-5)</b>
Day: 4		Lecture 7: Density of 2D & 3D and MB Distribution Introduction
		Lecture 8: MB Probability Density Function
Day: 5		Lecture 9: MB Velocity Distribution
		Lecture 10: Problems on MB
		<b>Solve Assignment No. 5: Maxwell - Boltzmann Statistics (Lect-6 to Lect-10)</b>
Day: 6		<b>Revision</b>
Day: 7		<b>Class Test 1: KTG and MB (Lect-1 to Lect-10)</b>
Day: 8		Lecture 11: First Law of Thermodynamics
		Lecture 12: First Law of Thermodynamics Problems
		<b>Solve Assignment No. 2: First Law of Thermodynamics (Lect11 to Lect-12)</b>
Day: 9		Lecture 13: Second Law of Thermodynamics
		Lecture 14: Entropy
		<b>Solve Assignment No. 3: Second Law of Thermodynamics (Lect-13 to Lect-14)</b>
Day: 10		Lecture 15: Maxwells Relations and Thermodynamic Potentials
		Lecture 16: TdS Equations and Energy Equations
		<b>Solve Assignment No. 4: Thermodynamical Potential (Lect-15 to Lect-16)</b>
Day: 11		Lecture 17: First Order Phase Transition
		Lecture 18: Fermions Part-1
		<b>Solve Assignment No. 8: Phase Transition (Lect-17)</b>
Day: 12		Lecture 19: Fermions Part-2
		Lecture 20: Bosons
Day: 13		<b>Class Test 2: First Law of Thermodynamics (Lect-11 to Lect-12)</b>
Day: 14		<b>Class Test 3: Second Law of Thermodynamics (Lect-13 to Lect-14)</b>
		<b>Class Test 4: Maxwell Relations and Thermodynamics Potential (Lect-15 to Lect-16)</b>
Day: 15		Lecture 21: Black Body Radiation
		Lecture 22: Statistical Mechanics Introduction (Statistical Mechanics)
		<b>Solve Assignment No. 6: Identical Particle (Lect-18 to Lect-21)</b>
Day: 16		Lecture 23: Discret Systems- Multilevel System (Statistical Mechanics)
		Lecture 24: Discret Systems- Magnetic Systems (Statistical Mechanics)
Day: 17		Lecture 25: Continuous System Part-1 (Statistical Mechanics)
		Lecture 26: Continuous Systems Part-2 (Statistical Mechanics)
		<b>Solve Assignment No. 7: Statistical Mechanics (Lect-22 to Lect-26)</b>
Day: 18		<b>Class Test 5: Identical Particles and Phase Transitions (Lect-17 to Lect-21)</b>
Day: 19		<b>Class Test 6: Statistical Mechanics (Lect-22 to Lect-26)</b>