

**CMI EDUCATION BOARD**  
**WEEKLY LESSON PLAN FOR ACADEMIC YEAR 2024-2025**

**CLASS- XI**  
**SUBJECT-PHYSICS**

MONTH	WEEK	DATE	CH	TOPIC
JUNE	1	26,27,28,29	2	Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures. Dimensions of physical quantities, dimensional analysis and its applications.
JULY	2	1,2,3,4,5,6	3	Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and nonuniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs.
	3	8,9,10,11,12,13	4	Relations for uniformly accelerated motion (graphical treatment). Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors
	4	15,16,18,19,20	4	Unit vector; resolution of a vector in a plane, rectangular components, Scalars and Vector product of vectors.
		22,23,24,25,26,27		<b>PRE MID TERM EXAM</b>
JULY & AUGUST		29,30,31,1,2,3		<b>PRE MID TERM EXAM</b>
	5	5,6,7,8,9,10	5	Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion, uniform circular motion.  Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion
	6	12,13,14,16,17	5	Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road
	7	20,21,22,23,24	6	Work done by a constant force and a variable force; kinetic energy, workenergy theorem, power.
	8	27,28,29,30,31	6	Notion of potential energy, potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.
SEPTEMBER	9	2,3,4,5,6,7	7	Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of

				mass of a rigid body; centre of mass of a uniform rod.
	10	9,10,11,12,13,14	7	Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications.
	11	17,18,19,20,21	7	Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions.
		23,24,25,26,27,28		<b>MID TERM EXAM</b>
SEPTEMBER & OCTOBER		30,1,3,4,5		<b>MID TERM EXAM</b>
	12	7,8,9,10	8	Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).
	13	14,15,16,18,19	8	Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth.
	14	21,22,23,24,25,26	8	Gravitational potential energy and gravitational potential, escape speed, orbital velocity of a satellite.
	15	28	9	Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus,
NOVEMBER	16	4,5,6,7,8,9	9	shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy.
	17	11,12,13,14,16	10	Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure.
	18	18,19,20,21,22,23	10	Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications.  Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.
	19	25,26,27,28,29,30	11	Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity.  Heat transfer-conduction, convection and radiation
DECEMBER	20	2,3,4,5,6,7	12	Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state - isothermal, adiabatic

		9,10,11,12,13,14		<b>POST MID TERM EXAM</b>
		16,17,18,19,20,21		<b>POST MID TERM EXAM</b>
	21	23	12	reversible, irreversible, and cyclic processes
JANUARY	22	2,3,4	13	Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number
	23	6,7,8,9,10,11	14	Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications.
	24	13,14,15,16,17,18	14	Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring-restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.
	25	20,21,22,23,24,25	15	Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.
	26	27,28,29,30,31		<b>REVISION</b>
FEBRUARY	27	1 TO 8		<b>REVISION</b>
	28	10,11,13,14,15		<b>REVISION</b>
FEBRUARY		17		<b>ANNUAL EXAM</b>

**PRE MID TERM EXAM SYLLABUS- chapter- 2**

**MID TERM EXAM SYLLABUS- chapter 2,3,4,5,6 (upto power)**

**POST MID TERM EXAM SYLLABUS- chapter 2 to 10**

**ANNUAL EXAM SYLLABUS- FULL SYLLABUS**

SIGNATURE:-