



BLOOM PUBLIC SCHOOL
C-8 Vasant Kunj, New Delhi
Syllabus for the Session 2026-27

Class: XI

Subject: PHYSICS

SYLLABUS			
MONTH	CHAPTER (NCERT Text book)	CONTENT (Topics)	Practical/Activities
April	Chapter–1: Units and Measurements	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	To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume
	Chapter–2: Motion in a Straight Line	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. Relations for uniformly accelerated motion (graphical treatment).	To determine radius of curvature of a given spherical surface by a sphere
May	Chapter–3: Motion in a Plane	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, Unit vector;	To measure diameter of a given wire and thickness of a given sheet using screw gauge. To determine volume of an irregular lamina using screw gauge

	Chapter-4: Laws of Motion	<p>resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform Acceleration projectile motion, uniform circular motion.</p> <p>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. Law of conservation of linear momentum and its applications.</p> <p>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).</p>	To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm
July	Chapter-4: Laws of Motion	<p>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. Law of conservation of linear momentum and its applications.</p> <p>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</p>	To find the weight of a given body using parallelogram law of vectors.

	Chapter–5: Work, Energy and Power	<p>circular road, vehicle on a banked road).</p> <p>Work done by a constant force and a variable force; kinetic energy, work energy theorem, power. 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.</p>	To plot a graph for a given set of data, with proper choice of scales and
August	Chapter–6: System of Particles and Rotational Motion	<p>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. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).</p>	To study the relationship between force of limiting friction and normal reaction and to find the co-efficient of friction between a block and a horizontal surface
	Chapter–7: Gravitation	<p>Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational</p>	To determine mass of a given body using a metre scale by principle of moments

		potential energy and gravitational potential, escape, orbital velocity of a satellite	
September	Chapter–8: Mechanical Properties of Solids	Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy.	To determine Young's modulus of elasticity of the material of a given wire
October	Chapter–9: Mechanical Properties of Fluids	Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. 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.	To find the force constant of a helical spring by plotting a graph between load and extension.
	Chapter–10: Thermal Properties of Matter	Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p , C_v - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal	To study the effect of detergent on surface tension of water by observing capillary rise.

		conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law .	
November	Chapter–11: Thermodynamics	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 gaseous state - isothermal, adiabatic, reversible, irreversible, and cyclic processes.	To observe and explain the effect of heating on a bi-metallic strip
	Chapter–12: Kinetic Theory	Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.	To study the factors affecting the rate of loss of heat of a liquid.
December	Chapter–13: Oscillations	Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M) and its equations of motion; phase;	To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

		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.	
January	Chapter–14: Waves	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	Revision of all the experiments and activity done in the laboratory
February	REVISION	REVISION	
March	ANNUAL EXAM	ANNUAL EXAM	

ASSESSMENT SYLLABUS	
PERIODIC ASSESSMENT -1	Chapter–1: Units and Measurements Chapter–2: Motion in a Straight Line Chapter–3: Motion in a plane
PERIODIC ASSESSMENT -2	Chapter–8: Mechanical Properties of Solids Chapter–9: Mechanical Properties of Fluids
MID TERM EXAM	Chapter–1: Units and Measurements Chapter–2: Motion in a Straight Line Chapter–3: Motion in a Plane Chapter–4: Laws of Motion Chapter–5: Work, Energy and Power Chapter–6: System of Particles and Rotational Motion Chapter–7: Gravitation
FINAL EXAMINATION	Chapter–1: Units and Measurements Chapter–2: Motion in a Straight Line Chapter–3: Motion in a Plane Chapter–4: Laws of Motion Chapter–5: Work, Energy and Power

	<p>Chapter–6: System of Particles and Rotational Motion</p>
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Chapter–7: Gravitation

Chapter–8: Mechanical Properties of Solids

Chapter–9: Mechanical Properties of Fluids

Chapter–10: Thermal Properties of Matter

Chapter–11: Thermodynamics

Chapter–12: Kinetic Theory

Chapter–13: Oscillations

Chapter-14: Waves