# NCERT Class 11 Physics syllabus 2025-26

| Chapter | Chapter Name | Topic Name |
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| Chapter 1 | Units And Measurements | The international system of units, Significant figures, Dimensions of physical quantities, Dimensional formulae and dimensional equations, Dimensional analysis. |
| Chapter 2 | Motion In A Straight Line | Instantaneous velocity and speed, Acceleration, Kinematic equations for uniformly accelerated motion, Relative velocity. |
| Chapter 3 | Motion In A Plane | Scalars and vectors, Multiplication of vectors by real numbers, Addition and subtraction of vectors — graphical method, Resolution of vectors, Vector addition — analytical method, Motion in a plane, Motion in a plane with constant acceleration, Projectile motion, Uniform circular motion. |
| Chapter 4 | Laws Of Motion | Aristotle's fallacy, The law of inertia, Newton's first law of motion, Newton's second law of motion, Newton's third law of motion, Conservation of momentum, Equilibrium of a particle, Common forces in mechanics, Circular motion |
| Chapter 5 | Work, Energy And Power | Notions of work and kinetic energy: The work-energy theorem, Work, Kinetic energy, Work done by a variable force, The work-energy theorem for a variable force, The concept of potential energy, The conservation of mechanical energy, The potential energy of a spring, Power, Collisions. |
| Chapter 6 | System Of Particles And Rotational Motion | Centre of mass, Motion of centre of mass, Linear momentum of a system of particles, Vector product of two vectors, Angular velocity and its relation with linear velocity, Torque and angular momentum, Equilibrium of a rigid body, Moment of inertia, Kinematics of rotational motion about a fixed axis, Dynamics of rotational motion about a fixed axis, Angular momentum in case of rotation. |
| Chapter 7 | Gravitation | Kepler's laws, Universal law of gravitation, The gravitational constant, Acceleration due to gravity of the earth, Acceleration due to |

| | | gravity below and above the surface of earth, Gravitational potential energy, Escape speed, Earth satellites, Energy of an orbiting satellite. |
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| Chapter 8 | Mechanical Properties Of Solids | Stress and strain, Hooke's law, Stress-strain curve, Elastic moduli, Applications of elastic behaviour of materials. |
| Chapter 9 | Mechanical Properties Of Fluids | Pressure, Streamline flow, Bernoulli's principle, Viscosity, Surface tension. |
| Chapter 10 | Thermal Properties Of Matter | Temperature and heat, Measurement of temperature, Ideal-gas equation and absolute temperature, Thermal expansion, Specific heat capacity, Calorimetry, Change of state, Heat transfer, Newton's law of cooling. |
| Chapter 11 | Thermodynamics | Thermal equilibrium, Zeroth law of Thermodynamics, Heat, internal energy and work, First law of thermodynamics, Specific heat capacity, Thermodynamic state variables and equation of state, Thermodynamic processes, Second law of thermodynamics, Reversible and irreversible processes, Carnot engine. |
| Chapter 12 | Kinetic Theory | Molecular nature of matter, Behaviour of gases, Kinetic theory of an ideal gas, Law of equipartition of energy, Specific heat capacity, Mean free path. |
| Chapter 13 | Oscillations | Periodic and oscillatory motions, Simple harmonic motion, Simple harmonic motion and uniform circular motion, Velocity and acceleration in simple harmonic motion, Force law for simple harmonic motion, Energy in simple harmonic motion, The simple pendulum. |
| Chapter 14 | Waves | Transverse and longitudinal waves, Displacement relation in a progressive wave, The speed of a travelling wave, The principle of superposition of waves, Reflection of waves, Beats. |

# NCERT Syllabus for Class 11 Physics Practicals 2025-26

The NCERT Syllabus for Class 11 Physics Practical is listed below.

SECTION–A

Experiments

1. 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.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.
7. Using a simple pendulum, plot its graph and use it to find the effective length of second's pendulum.
8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.
9. 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.
10. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting graph between force and Sinθ.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

SECTION–B

Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on the surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end, (ii) in the middle.
7. To observe the decrease in pressure with an increase in the velocity of a fluid.