

Rajasthan Board Class 11

Physics Practical Syllabus

प्रायोगिक (Practical)

Note: Every student will perform 10 experiments (5 from each section) and 8 activities (4 from each section) during the academic year.

Two demonstration experiments must be performed by the teacher with participation of students. The students will maintain a record of these demonstration experiments. Schools are advised to see the guidelines for evaluation in practicals for Class XII. Similar pattern may be followed for Class XI.

SECTION A

Experiments

1. Use of Vernier Callipers
 - (i) to measure diameter of a small spherical/cylindrical body.
 - (ii) to measure dimensions of a given regular body of known mass and hence find its density.
 - (iii) to measure internal diameter and depth of a given beaker/calorimeter and hence find its volume.
2. Use of screw gauge
 - (i) to measure diameter of a given wire,
 - (ii) to measure thickness of a given sheet
 - (iii) to measure volume of an irregular lamina
3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To find the weight of a given body using parallelogram law of vectors.
5. Using a simple pendulum, plot $L-T$ and $L-T^2$ graphs. Hence find the effective length of second's pendulum using appropriate graph.
6. To study the relationship between force of limiting friction and normal reaction and to find co-efficient of friction between a block and a horizontal surface.
7. 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 by plotting graph between force and $\sin \theta$.

Activities

1. To make a paper scale of given least count, e.g. 0.2cm, 0.5cm.
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 jet of water with angle of projection.
6. To study the conservation of energy of a ball rolling down on inclined plane (using adouble inclined plane).

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 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. (i) To study the relation between frequency and length of a given wire under constant tension using sonometer.
(ii) To study the relation between the length of a given wire and tension for constant frequency using sonometer.
8. To find the speed of sound in air at room temperature using a resonance tube by two-resonance positions.
9. To determine specific heat of a given (i) solid (ii) liquid, by method of mixtures.

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 surface tension 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 (i) at its end (ii) in the middle.

Prescribed Books -

Physics-I : NCERT's Book Published under Copyright

Physics-II : NCERT's Book Published under Copyright