

Board of Secondary Education, Rajasthan, Ajmer

Subject : Physics Practical
Subject Code : 040
Class : XII

Revised Syllabus for Exam 2021

Practical Examination

Time Allowed: 4:00 hrs.

Max. Marks: 30

1	One experiments one from any section	10 Marks
2	Two Activities (one from each section)5x2	10 Marks
3	Practical record (experiment and activities)	5 Marks
4	Viva (on experiments, activities)	5 Marks
	Total	30 Marks

In this academic Session (2020-21), every student has to complete a minimum of 6 experiments (at least 3 experiments from each section) and a minimum of 4 activities (at least 2 activities from each section)

SECTION–A

Experiments

- Using Vernier Calipers –
 - To measure dimensions of a given regular object and find out its density body
 - To measure internal diameter and depth of a given container.
- Using screw gauge-
 - To measure diameter of a given wire
 - To measure thickness of a given sheet.
- To determine radius of curvature of a given spherical surface by a spherometer.
- To find the weight of a given body using parallelogram law of vectors.

- Using a simple pendulum, find gravitational acceleration (g) and use it to find the effective length of second's pendulum.
- 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.
- To find moment of inertia of object of regular shape using oscillation method.
- 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.
- To find force constant of a loaded spring.

Activities

- To make a paper scale of given least count.
- To determine mass of a given body using a meter scale by principle of moments.
- To plot a graph for a given set of data, with proper choice of scales and error bars.
- To measure distance between two parallel lines using microscope.
- To study the variation in range of water jet with angle of projection.
- To determine deviation in average value and root mean square of the given data set using logarithm table.
- To adjust physical balance and measure mass of a solid.

SECTION-B

Experiments

- To determine Young's modulus of elasticity of the material of a given wire.
- To determine the surface tension of water by capillary rise method.
- Verify Newton's cooling law.
- Using Sonometer, verify transverse vibration law of string (i) $n \propto \frac{1}{l}$ (ii) $n \propto \sqrt{T}$
- Using Sonometer, find frequency of given tuning fork.
- To find the speed of sound in air at room temperature using a resonance tube (using three tuning forks of different frequency) and draw graph between frequency and resonance length.
- To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
- To study the variation in volume with pressure for a sample of air at constant temperature.
- To determine specific heat capacity of a given (i) solid (ii) liquid by method of mixtures.
- To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
- To study the relation between frequency and length of a given wire under constant tension using sonometer.
- To study the relation between the length of a given wire and tension for constant frequency using sonometer.

Activities

- To observe change of state and plot a cooling curve for molten wax.
- To study the effect of detergent on surface tension of water by observing capillary rise.
- Compare accuracy and precision of two measuring instrument of different least count.
- To observe and explain the effect of heating on a bi-metallic strip.
- To study the effect of load on depression of a suitably clamped meter scale loaded at (i) its end (ii) in the middle.
- To note the change in level of liquid in a container on heating and interpret the observations.
- To study the factors affecting the rate of loss of heat of a liquid.