ISC Class 12 Physics Practical Syllabus

Students are required to have completed all experiments from the given list

1. To find focal length of a convex lens by using u-v method (no parallax method)

Using a convex lens, optical bench/metre scales and two pins, obtain the positions of the images for various positions of the object; f<u<2f, u~2f, and u>2f.

Draw the following set of graphs using data from the experiments -

(i) v against u. It will be a curve.
(ii) Magnification (m = $\frac{v}{u}$) against v which is a straight line and to find focal length by intercept.
(iii) y = (100/v) against x = (100/u) which is a straight line and find f by intercepts.

2. To find f of a convex lens by displacement method.

3. To determine the focal length of a given convex lens with the help of an auxiliary convex lens.

4. To determine the focal length of a concave lens, using an auxiliary convex lens, not in contact and plotting appropriate graph.

5. To determine focal length of concave mirror by using two pins (by u-v method).

6. To determine the refractive index of a liquid by using a convex lens and a plane mirror.

7. To determine the focal length of a convex mirror using convex lens.

8. Using a metre bridge, determine the resistance of about 100 cm of (constantan) wire. Measure its length and radius and hence, calculate the specific resistance of the material.

9. Verify Ohm's law for the given unknown resistance (a 60 cm constantan wire), plotting a graph of potential difference versus current. Also calculate the resistance per cm of the wire from the slope of the graph and the length of the wire.

10. To compare emfs of two cells using a potentiometer.

11. To determine the internal resistance of a cell by a potentiometer.

12. From a potentiometer set up, measure the fall in potential (i.e. pd) for increasing lengths of a constantan wire, through which a steady current is flowing; plot a graph of pd (V) versus length (l). Calculate the potential gradient of the wire and specific resistance of its material. Q (i) Why is the current kept constant in this experiment? Q (ii) How can you increase the sensitivity of the potentiometer? Q (iii) How can you use the above results and measure the emf of a cell?

13. To verify the laws of combination of resistances (series and parallel) using metre bridge.