

Glass Prism

AIM: To trace the path of rays of light passing through the prism.

APPARATUS: Drawing board, sheet of white paper, glass prism, pins, scale, protractor,

PROCEDURE:

1. Take a white sheet of paper and fix it on the drawing board.
2. Draw the outline of prism with the sharp pencil and remove the prism.
3. Choose the suitable point X which acts as a point of incidence roughly in the middle of AB as shown in the figure. Draw normal N to this point.
4. Draw a line making angle 30 degrees with the normal. This line will form the incident ray
5. Properly place the prism within the outline ABC.
6. Place two pins P and Q at least 5 cm apart on the incident ray line and view their images with one eye closed from the side AC of the prism. Fix another two pins R and S on the paper such that the tips of these pins and images of the incident ray pins (P and Q) all lie in the same straight line.
7. Remove the pins and prism. Encircle the pin pricks with a sharp pencil.
8. Join R and S and extend it backward to point Y on AC. Draw a normal at Y.
9. Join XY, which shows the path of light ray inside the prism.
10. Repeat steps 2 to 9 for other angles of the incidence

OBSERVATIONS:

From the diagram it is clear that as the ray moves from air (optically rarer medium) to glass (optically denser medium) it bend towards the normal.

RESULT :

PQXYRS represents the path of light ray through the prism as shown in the diagram.

PRECAUTIONS :

1. Prism should be placed properly inside the drawn marking.
3. The angle of incidence should be taken between 30 degrees to 60 degrees.
4. The separation between the pins should not be less than 5 cm.

On the left side

