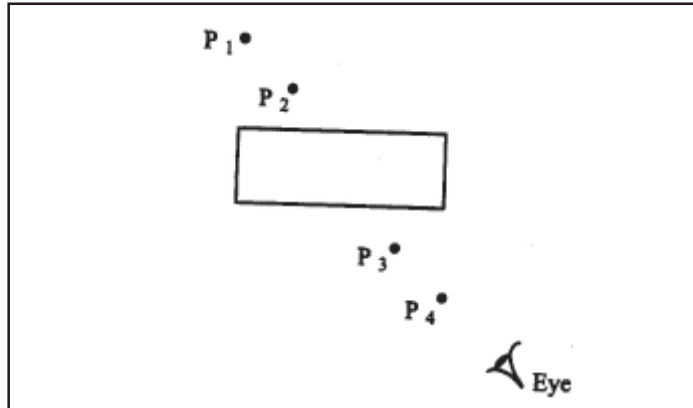


Experiment - 4

Rectangular Glass Slab

- Q. 1 In the glass slab experiment shown below, four students A, B, C and D did the following:-
- A : Kept the eyes far from the glass slab while placing both the pins P_3 and P_4 .
 - B : Kept the eye close to the glass slab while placing both the pins P_3 and P_4 .
 - C : Kept the eyes close to the glass slab while placing pins P_3 and far from the slab while placing P_4 .
 - D : Kept the eyes far from the glass slab while placing pin P_3 and close to the slab while placing pin P_4 .



The correct procedure is that of student.

- (a) A (b) B (c) C (d) D
- Q. 2 A student performed the experiment of glass slab and with different angles of incidence, measured the angles of refraction and emergence in each case. He then recorded his observations in the table as given.

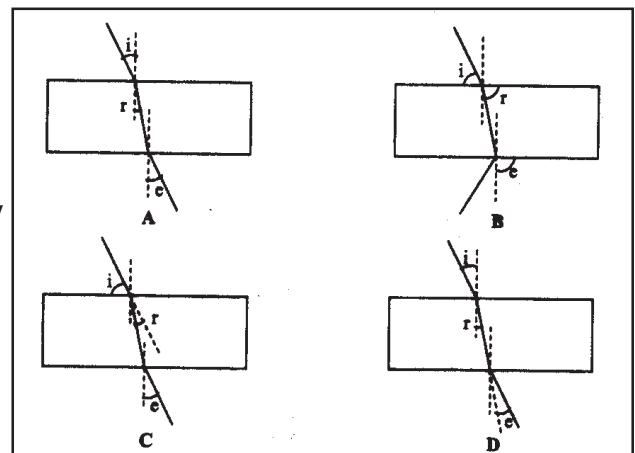
S.No.	Angle of Incidence	Angle of refraction	Angle of emergence
A	30°	25°	30°
B	40°	42°	40°
C	50°	50°	50°
D	60°	60°	62°

The correct observation is that of :-

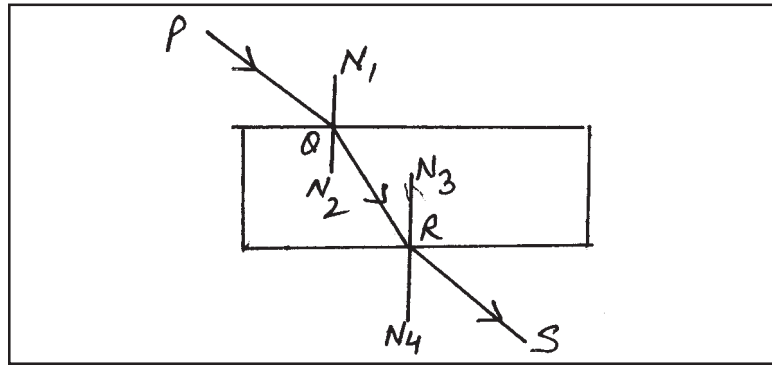
- (a) A (b) B (c) C (d) D

- Q. 3 In an experiment to trace the path of a ray of light passing through a rectangular glass slab, the correct measurement of angle of incidence (i) , refraction (r) and emergence (e) is shown in diagram is:-

- (a) A (b) B (c) C (d) D



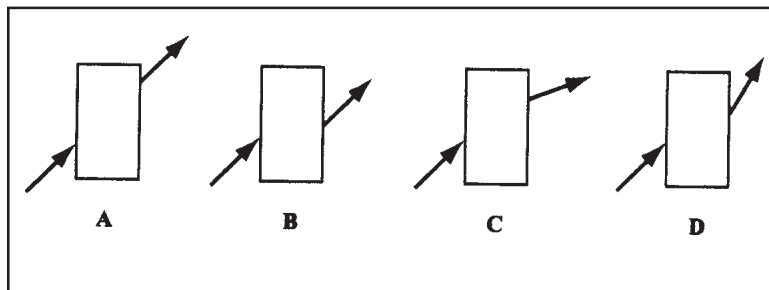
Q. 4 An experiment of tracing the path of light rays through a glass slab was set up in the laboratory and ray diagram was drawn as shown.



The teacher asked the students to identify refracted ray. The correct answer is :-

- (a) PQ (b) QR (c) N_1N_2 (d) RS

Q. 5 Four students showed the following traces of the path of a ray of light passing through of rectangular glass slab.

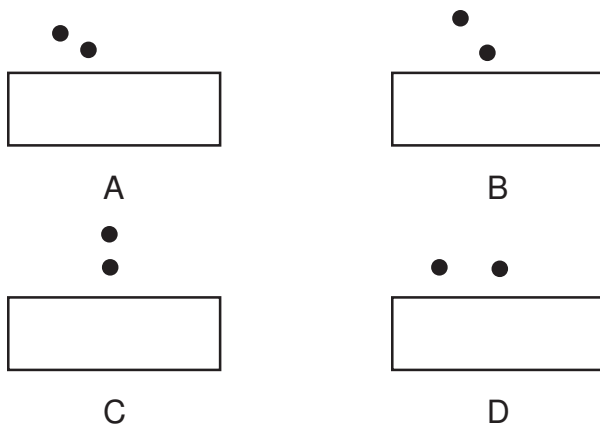


The trace most likely to be correct is that of student:-

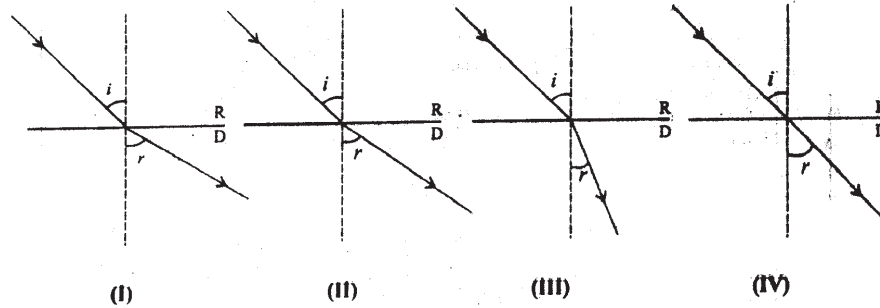
- (a) A (b) B (c) C (d) D

Q. 6 Out of the four set ups of fixing the pins as shown, while tracing the path of ray of light through a rectangular glass slab, the most appropriate and preferred position of pins is:-

- (a) A (b) B (c) C (d) D



Q. 7 Which of the following figures shows the travelling of light from rarer (R) to denser (D) medium?



(I) (II) (III) (IV)

- (a) Figure (I) and (IV) only (b) Figure (II) and (III) only
 (c) Figure (III) only (d) Figure (I) only

Q. 8 Four students reported the following observation tables for the experiment to trace the path of a ray of light passing through a glass slab for different angles of incidence. The observations, likely to be correct are those of student.

$\angle i$	$\angle r$	$\angle e$
30°	40°	30°
40°	50°	40°
50°	60°	50°

(A)

$\angle i$	$\angle r$	$\angle e$
30°	20°	30°
40°	30°	40°
50°	40°	50°

(B)

$\angle i$	$\angle r$	$\angle e$
30°	20°	40°
40°	30°	50°
50°	40°	60°

(C)

$\angle i$	$\angle r$	$\angle e$
30°	20°	20°
40°	30°	30°
50°	40°	40°

(D)

- (a) A (b) B (c) C (d) D

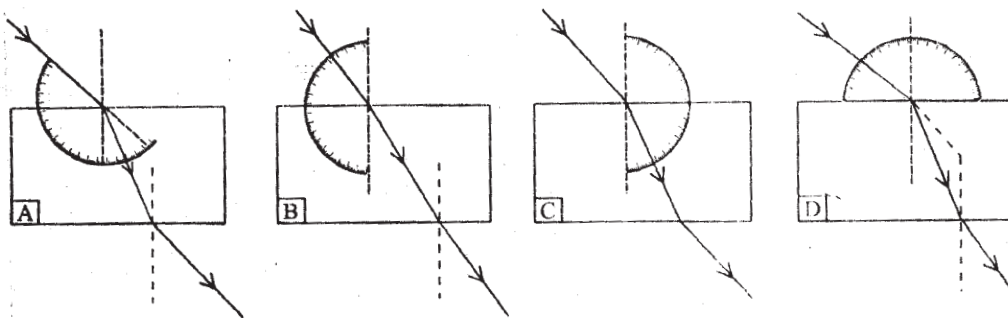
Q. 9 A ray of light is incident on one of the parallel faces of a rectangular glass slab. It emerges out of the opposite parallel face making an angle of emergence

- (a) equal to angle of incidence (b) greater than angle of incidence
 (c) smaller than angle of incidence (d) equal to zero

- Q. 10 A ray of light incident on one of the parallel faces of rectangular glass slab, emerges out of the opposite parallel face
- inclined to the incident ray
 - along the same straight line as the incident ray
 - parallel to the incident ray but laterally displaced
 - get absorbed into the body of the glass slab and does not emerge out of it.

- Q. 11 While performing an experiment of refraction of light through glass slab four students gave the following conclusion after their observations. Whose conclusion is correct.
- $\angle i = \angle r = \angle e$
 - $\angle i < \angle r$ and $\angle r = \angle e$
 - $\angle i > \angle r$ and $\angle r > \angle e$
 - $\angle i = \angle e$ and $\angle r < \angle i$

- Q. 12 A student traces the path of a ray of light passing through a rectangular glass slab.



For measuring the angle of incidence, he must position the protector in the manner shown in figure.

- A
- B
- C
- D

Experiment - 5 (X)

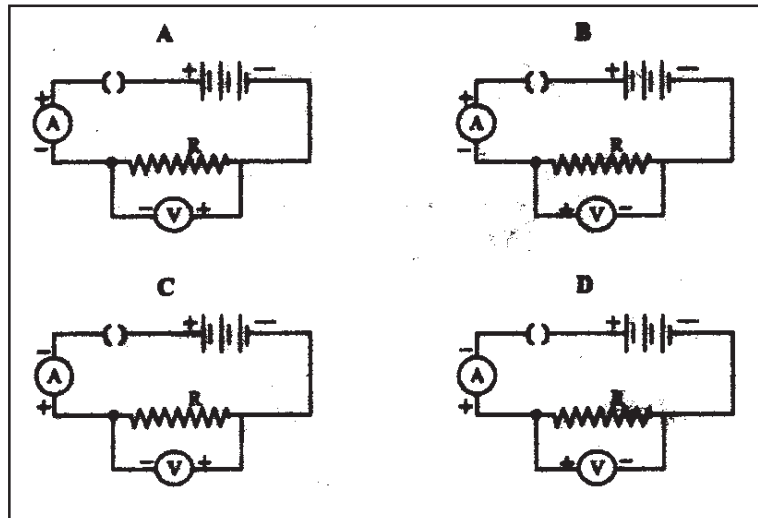
Ohm's Law

Q. 1 Potential difference between two points A and B on a conductor carrying current is equal to the :-

- (a) work done to move a unit charge from A to B
- (b) work done to move a unit from infinity to point A
- (c) the rate at which work done is consumed
- (d) none of these

Q. 2 Out of four circuits shown for studying the dependence of the current on the potential difference across a resistor the correct circuit is:-

- (a) A
- (b) B
- (c) C
- (d) D



Q. 3 The plot correctly showing the dependence of the current (I) on the potential difference (V) across a resistor R is:-

- (a) A
- (b) B
- (c) C
- (d) D

