

# Reflection

12

Q1

2 students while sitting across a table looked on its top surface. They noticed that they could see their own & each other's image. The table top is likely to be made up of -

- a) Unpolished wood
- b) red stone
- c) silver coloured shiny metal
- d) wood top covered with cloth

c) is the correct answer.

Q2

In a completely dark room, if you hold up a mirror in front of you, will you see a reflection of yourself in mirror?

Ans2

No, we will not be able to see our reflection in mirror in a completely dark room. Image is formed by a mirror due to reflection of light from any object. As there is no light in room so we won't be able to see our reflection in mirror.

Q3 What is a Periscope? Explain its construction & working with the help of labelled diagram.

A3 It is a device used to see objects which are not in direct line of sight.

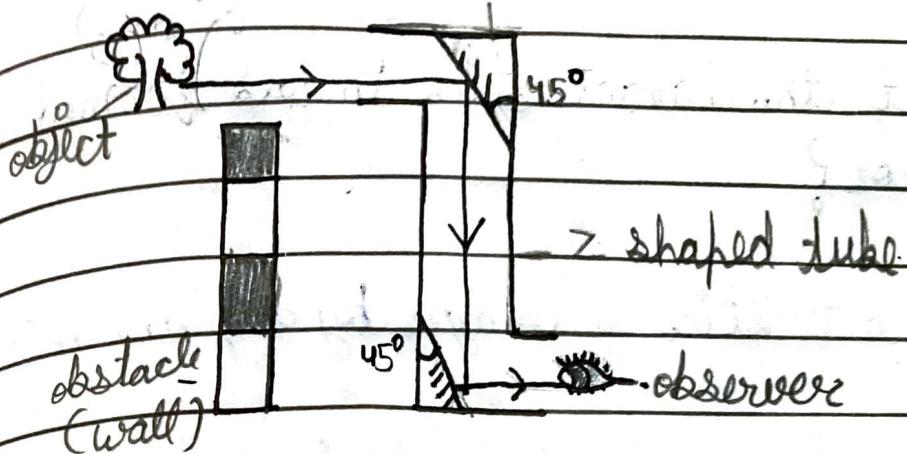
### Construction

It consists of Z-shaped tube with 2 flat mirrors. These mirrors are parallel to each other & fixed at angle of  $45^\circ$  with the sides of tubes.

### Working

Light from the object at a higher-level fall on mirror M1. The image formed by this mirror acts as an object for second mirror (M2). The image formed by this mirror is seen by observer. Its working is based on Multiple Reflection of light.

## Plane Mirror



Q4 How are 2 plane mirrors arranged in a periscope  
arranged -

- a With respect to each other?
- b With respect to corner of tube?

Ans a They are parallel to each other.

Ans b  $45^\circ$

Q5 Write the characteristics images formed in plane mirror?

Ans 5 Characteristics of images by a plane mirror:

- a) It's virtual (can't be obtained on screen)
- b) Erect (upright)
- c) Same in size as the object.
- d) Formed as far behind the mirror as the object is in front.
- e) Image formed by a plane mirror is laterally inverted.

Q6 State 1 way in which way your image in plane mirror differs from you?

Ans 6 Image formed in plane mirror is laterally inverted  
If you move your left hand standing in front of

mirror, your mirror image moves its right hand. If you shake your right foot, your mirror image moves its left foot.

inverted

Draw the laterally inverted image of the following -

Q7

R  
BAY



YAY

2

NIGHT

THOLDI

3

HAT

TAH

4

PHYSICS

2512YHG

5

SAISHA

AH21A2

Q8

Differentiate between the image formed by Plane Mirror and image formed by a pinhole camera.

Ans 8

Image formed by  
Pinhole Camera

Image formed by  
Plane Mirror

- |   |                                 |
|---|---------------------------------|
| 1. It is real & inverted (updown) <sup>upside</sup> | It is virtual & erect.          |
| 2. It is formed inside pinhole camera but not clear | It is clear & shows all details |
| 3. It is smaller than object                        | It is of same size as object    |

Q3

Write any 3 uses of Periscope.

- 1 It is used in submarine to see ships on surface of sea water when submarine is inside water.
- 2 It is used by soldiers in trenches to see enemy's activity on ground.
- 3 It is used to see above heads of crowd in football match above ground.

Q10 Why is AMBULANCE written laterally inverted on an ambulance van?

The letters on front of AMBULANCE are written laterally inverted like E C N A L U B M A because the driver of vehicle moving on road ahead of the ambulance reads these words laterally inverted as AMBULANCE in his rear view mirror and so he gives side to pass the ambulance first.

Q11 A boy is standing in front of plane mirror at a distance of 3m from it. If height of boy is 160cm find out the following:

a) Height of his image.

b) Distance of the image of boy from plane mirror

c) Distance between the boy and his image.

Ans a) 160 cm

b) 3m

~~c)  $3m + 3m = 6m$~~