Chapter 15: Light

Multiple Choice Questions **Page-152**

1. (c) 2. (c)

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1. (a) 2. (b)

EXERCISE

A. Tick (✓) the correct options.

1. (d) 2. (d) 3. (c) 4. (a)

B. Look at the Fig. (a) given alongside and tick (✓) the correct options.

1. (b) 2. (c)

C. Fill in the blanks.

1. Convex 2. focal length 3. spectrum
4. dispersion 5. Concave 6. magnifying glasses
7. different colours

D. State whether the following statements are true (T) or false (F). Rewrite the false statements correctly.

1. F, Correct statement – The image formed by the plane mirror is virtual and erect.

2. T
3. F, Correct statement – The image formed by a convex lens is erect, magnified and virtual, when an object is kept between the lens and the focus.
4. F, Correct statement – Image which can be obtained on a screen is called a real image.

E. Very Short Answer Questions.

1. An image of a boy in the plane mirror
2. Concave lens
3. Real image
4. Bulging surface of a spoon always forms an erect image of the face.
5. Concave lens
6. Convex lens

F. Short Answer Type-I Questions.

1. The process of sending back the light rays which fall on the surface of an object is called the reflection of light.
2. A lens is a piece of transparent material (glass or transparent plastic) bound by two curved surfaces or by one curved and one plane surface.
3.

Convex lens	Concave lens
The convex lens is thicker in the middle and thinner at the edges and has a converging lens.	The concave lens is thinner in the middle and thicker at the edges and has a diverging lens.

4. The principal focus of a spherical lens is the point on the principal axis where all the light rays which are parallel to the principal axis meet or appear to meet.
5. (a) Convex lens (b) Concave lens

G. Short Answer Type-II Questions.

1. The image formed in a plane mirror is
   (i) of the same size and shape as the object.
   (ii) virtual and erect.
   (iii) laterally inverted with respect to the object.
   (iv) at the same distance from the mirror as the object.
2. Light enables us to see the objects around us. When light after reflection enters our eyes, we are able to see the objects. When light falls on the surface of an object, the object sends the light back. This process of sending back of light rays which fall on the surface of an object is called reflection of light.

3. The image which can be obtained on a screen is called a real image. A real image is always inverted. It is formed on the same side of the mirror where the object is placed.

   The image which cannot be obtained on a screen is called a virtual image. It is always erect. It is always formed behind the mirror.

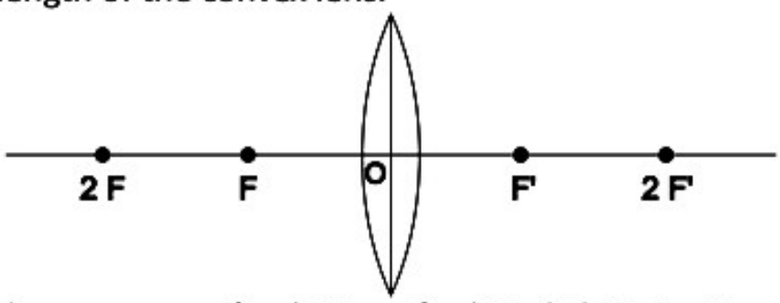
4. The disc painted with seven colours of the spectrum is called Newton's disc. Newton with the help of Newton's disc demonstrated that all seven colours together make white light.

5. Concave mirrors are
   (i) used as shaving mirrors.
   (ii) used as reflectors in torches and headlights of vehicles.
   (iii) used by dentists to see enlarged image of teeth.

6. (a) Concave lens (b) Care for the grandparents

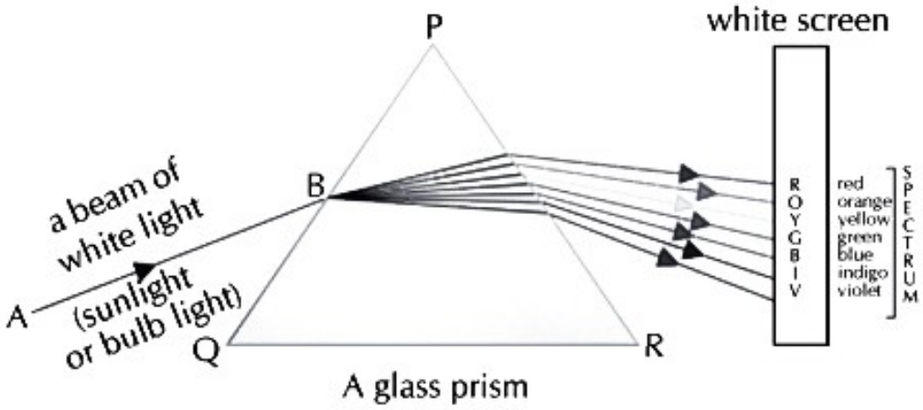
H. Long Answer Questions.

1. (a) F and F′ are the principal foci of the convex lens.
   (b) O is the optical centre of the convex lens.
   (c) Distance between O and F or the distance between O and F′ is the focal length of the convex lens.



2. (a) The phenomenon of splitting of white light into its component colours on passing through a transparent medium like glass prism is called dispersion of light.

   (b) A glass prism splits the white light into seven colours.



   (c) Rainbow formation after the rain is a natural phenomenon which is caused by the dispersion of light.