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**Max Time : 1 hr** **Class = 10th Science Test**  **Max Marks : 20**

**LIGHT: REFLECTION CODE : A**

1. What kind of image can be obtained on the screen ? [ 1 ]
2. If an object is placed at the focus of a concave mirror, where is the image formed ? [ 1 ]
3. What should be the position of the object when a concave mirror is to be used as a shaving mirror ? [ 1 ]
4. (i) List four characteristics of the images formed by plane mirrors ? [ 2 ]

(ii) How can you distinguish between a plane mirror, a concave mirror and a convex mirror without touching them ?

1. If the image formed by a mirror for all positions of the object placed in front of it is always erect and diminished, what type of mirror is it? Draw a ray diagram to justify your answer. Where and why do we generally use this type of mirror? [ 2 ]
2. An object is placed at a large distance in front of a convex mirror of radius of curvature 40 cm. How far is the image behind the mirror ? [ 2 ]
3. Focal length of a convex mirror is 50 cm. What is its radius of curvature ? [ 2 ]
4. An object 2 cm high is placed at a distance of 16 cm from a concave mirror which produces a real image 3 cm high. [ 3 ]

(i) Find the position of the image. (ii) What is the focal length of mirror?

1. An object is placed in front of a concave mirror of focal length 20 cm. The image formed is 3 times the size of the object. Calculate two possible distances of the object from the mirror ? [ 3 ]
2. When an object is placed at a distance of 60 cm from a convex spherical mirror, the magnification produced is 1/2. Where should the object be placed to get a magnification of 1/3 ? [ 3 ]

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**LIGHT: REFLECTION CODE : B**

1. What type of image is formed in a plane mirror ? [ 1 ]
2. What type of image is formed on a cinema screen ? [ 1 ]
3. What is the significance of + ve sign of magnification ? [ 1 ]
4. (i) List four specific characteristics of the images of the objects formed by convex mirrors. [ 2 ]

(ii) An object is placed at a distance of 30 cm in front of a convex mirror of focal length 15 cm. Write four characteristics of the image formed by the mirror.

1. A 2.5 cm candle is placed 12 cm away from a convex mirror of focal length 30 cm. Give the location of the image [ 2 ]
2. If the image formed by a mirror for all positions of the object placed in front of it is always erect and diminished, what type of mirror is it? Draw a ray diagram to justify your answer. Where and why do we generally use this type of mirror? [ 2 ]
3. Radius of curvature of a concave mirror is 25 cm. What is its focal length ? [ 2 ]
4. An object is placed in front of a concave mirror of focal length 20 cm. The image formed is 3 times the size of the object. Calculate two possible distances of the object from the mirror ? [ 3 ]
5. An object is placed 18 cm in front of a spherical mirror. If the image is formed at 4 cm to the right of the mirror, calculate its focal length. Is the mirror convex or concave? What is the nature of the image? What is the radius of curvature of the mirror ? [ 3 ]
6. Find the size, nature and position of image formed when an object of size 1 cm is placed at a distance of 15 cm from a concave mirror of focal length 10 cm. [ 3 ]