Practice Sheet

Class X

Sub: Physics (Science)

Chapter-1 (Reflection and Refraction)

Que.1 The following question consists of two statements- Assertion (A) and Reason (R). Answer the question selecting the appropriate options given below:

(a) Both A and R are true and R is the correct explanation of A
(b) Both A and R are true but R is not the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true

(1) Assertion (A): If both object and plane mirror are moved through a distance x, the image moves through a distance 2x.
Reason(R): If object is fixed and plane mirror moved through a distance x, then the image also moves through a distance 2x.

(2)Assertion (A): A person cannot see his image in a concave mirror, unless, he is standing beyond the centre of curvature of the mirror.

Reason(R): In concave mirror, Image formed is real provided the object is situated beyond its focus.

(2) Assertion (A): Virtual images are always erect.
Reason(R): Virtual images are formed by diverging mirror only.

Que.2 Choose the correct answer for each of the following

(1) The full length image of a distant tall building can definitely be seen by using.
  (a) A concave mirror
  (b) A convex mirror
  (c) A plane mirror
  (d) Both concave as well as plane mirror

(2) Which of the following can make a parallel beam of light when light from a point source is incident on it?
  (a) Concave mirror as well as convex lens
  (b) Convex mirror as well as concave lens
  (c) Two plane mirrors placed at 90^{o} to each other
  (d) Concave mirror as well as concave lens

(3) Two convex lens of focal length 20cm and 25cm are placed in contract with each other, then power of this combination is

(a) +1D
(b) -1D
(c) +9D
(d) -9D

Que.03 Define the optical centre for lenses.

Que.04 An object of size 7.0cm is placed at 27cm in front of a concave mirror of focal length 18cm. At what distance from mirror should a screen be placed so that a sharp focused image can be obtained ? Find the size and the nature of the image.

Que.5 State the relation between object distance, image distance and focal length of the spherical mirror.

Que.6 A child is standing in front of a magic mirror. She finds the image of her head bigger, the middle portion of her body of same size and that of the leg smaller. Write the order of combination for the magic mirror from the top.

Que.7 Find the position of an object which when placed in front of a concave mirror of focal length 20cm produces a virtual image twice the size of the object.

Que.8 A concave mirror and convex lens immerged in water. What change, if any, do you expect in the focal length of the two?

Que.9 A man is holding a lighted candle in front of a thick glass mirror and on viewing it obliquely he noticed a number of images of the candle why?

Que.10 A concave mirror of focal length f produces an image n times the size of the object. What would be the object distance for which the image is real?