

**HOME ASSIGNMENT 2018-19**

**CLASS X SUBJECT-PHYSICS**

1. A ray of light moving along the principal axis is falling on a concave mirror .In which direction it is reflected?
2. Name the point on the lens through which ray of light passes undeviated?
3. What kind of mirror can give a magnification  $+1/2$ ?
4. What is the sign of the image distance ( $v$ ) when an object is placed between F and C before a concave mirror?
5. What is the unit of refractive index?
6. List four characteristics of the image formed by plane mirror?
7. Why convex mirror is used as rear view mirror?
8. A light goes from medium A to medium B undeviated .What is the refractive index of medium B relative to medium A?
9. Name the mirror that
  - (a) Can give real as well as virtual image of an object.
  - (b) Will always give virtual image of same size of an object.
  - (c) Will always give virtual and diminished image of an object.
  - (d) Is used by a doctor in examining teeth.
10. It is desired to obtain an erect image of an object using concave mirror of focal length 12 cm.
  - (i) What should be the range of distance of an object placed in front of the mirror?
  - (ii) Will the image be larger or smaller than the object.Draw the ray diagram.
  - (iii) Where will the image of this object be if it is placed 24 cm in front of the mirror.Draw the ray diagram.
11. A 10mm long pin is placed vertically in front of the concave mirror. A 5mm long image of the pin is formed at 30 cm in front of the mirror .Find the focal length of the mirror.
12. The refractive indices of water and glass with respect to air are  $4/3$  and  $3/2$  respectively ,If the speed of light in glass is  $2 \times 10^8$  m/s.Find the speed of light in (i) air (ii) water.