8. An object is placed at a distance of $40cm$ in front of a concave mirror having a focal length $20cm$. What type of image is formed?
   a. Virtual and Inverted
   b. Real inverted and diminished
   c. Real and erect
   d. Real, Inverted and of the same size as the object.

9. The image formed by a concave mirror.
   a. Is always real
   b. Is certainly real if the object is virtual
   c. Is always virtual
   d. Is certainly virtual if the object is real

10. In concave mirror, the size of the image depends upon
    a. size of object
    b. area covered by the object
    c. position of object
    d. shape of object

11. A real object is $10\ cm$ in front of a concave mirror, which produces an erect image. The radius of curvature of the mirror is,
    a. $Less\ than\ 10\ cm$
    b. $Between\ 10cm\ and\ 20\ cm$
    c. $Exactly\ 10\ cm$
    d. $More\ than\ 20\ cm$

12. A concave lens forms the image of an object such that the distance between the object and the image is $10\ cm$ and the magnification produced is $1/4$. The focal length of the lens will be:
    a. $8.6\ cm$
    b. $6.2cm$
    c. $10\ cm$
    d. $4.4cm$

13. A concave mirror of focal length f in air is immersed in water of refractive index 1.33. The focal length of the mirror in water will be,
    a. f
    b. $4/3f$
    c. $3/4f$
    d. $7/3f$

14. How far should an object be held from a concave mirror of focal length $40\ cm$ so as to obtain a real image twice the size of the object?
    a. $10cm$
    b. $20cm$
    c. $30cm$
    d. $60cm$

15. The radius of curvature of a concave mirror is $24\ cm$ and the image is magnified by $1.5\ times$. The distance of the object is,
    a. $8\ cm$
    b. $10\ cm$
    c. $20\ cm$
    d. $24\ cm$

16. A shaving mirror of focal length f produces an image $x\ times$ the size of the object. If the image is real, then the distance of the object from the mirror is,
    a. $(x+1)f$
    b. $\frac{(x+1)f}{x}$
    c. $\frac{(x-1)f}{x}$
    d. $(x-1)f$

17. Two mirrors are at 60^0, and the number of images formed is:
    a. 5
    b. 6
    c. 7
    d. 8

18. If an object is placed symmetrically between two plane mirrors inclined at an angle of 72^0. The number of images will be:
    a. 2
    b. 4
    c. 5
    d. $Infinity$

19. What is the magnification when the object is placed at $2f$ from the pole of a convex mirror:
    a. -1
    b. $-\frac{1}{3}$
    c. $-\frac{2}{3}$
    d. $-\frac{3}{2}$

20. A person approaches a plane mirror with velocity v then the relative velocity of the approach of the person and his image is:
    a. 0
    b. $v/2$
    c. v
    d. $2v$