

NTSE WORK SHEET

SET - 1

1. Focal length of plane mirror is

- a. At infinity
- b. Zero
- c. Negative
- d. None of these

2. Power of the lens is -40, its focal length is

- a. 4m
- b. -40m
- c. -0.25m
- d. -25m

3. In optics an object which has higher refractive index is called

- a. Optically rarer
- b. Optically denser
- c. Optical density
- d. Refractive index

4. The optical phenomena, twinkling of stars, is due to

- a. Atmospheric reflection
- b. Total reflection
- c. Atmospheric refraction
- d. Total refraction

5. **An object is placed at a distance of 0.25 m in front of a plane mirror. The distance between the object and image will be**
- (a) 0.25 m
 - (b) 1.0 m
 - (c) 0.5 m
 - (d) 0.125 m
6. **The angle of incidence for a ray of light having zero reflection angle is**
- (a) 0
 - (b) 30°
 - (c) 45°
 - (d) 90°
7. **Which of the following mirror is used by a dentist to examine a small cavity?**
- (a) Convex mirror
 - (b) Plane mirror
 - (c) Concave mirror
 - (d) Combination of convex and concave mirror
8. **An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is**
- (a) - 30 cm
 - (b) 30 cm
 - (c) - 15 cm
 - (d) +15 cm

9. **The colour which is scattered most in atmosphere is**
a) red

b) green

c) yellow

d) blue

10. While driving in winter, through dense fog, one can see some rays from headlights emitted by vehicle reaching towards us is due to....

a) scattering of light

b) atmospheric refraction

c) reflection of light

d) dispersion of light

11. The phenomenon of scattering of light by the colloidal particles is known as.....

a) Raman effect

b) Newton's ring

c) Spectral effect

d) Tyndall effect

Q12) Which of the following colour in visible spectrum has longest wavelength.....

- a) blue
- b) red
- c) yellow
- d) violet

Q.13) Which of the following colour in visible spectrum has shortest wavelength.....

- a) indigo
- b) red
- c) orange
- d) violet

14) Colour of sky appears blue its due to

- a) shorter wavelength of blue colour
- b) the size of fine particles in atmosphere is almost equal to wavelength of blue colour
- c) as extent of scattering of blue light is more it enters our eye
- d) all of these

Q.15) The sky would have appeared.....in colour if earth doesn't have atmosphere.

- a) blue
- b) red
- c) black
- d) white

Q.16) Red and green colours are preferred in traffic signal s because.....

- a) red and green colours have large wavelength
- b) these colours scatters least
- c) there is less absorption of these colours
- d) all of these

Q.17) Clouds appears white due to.....

- a) water droplets scatters all wavelength
- b) water is in frozen conditions looks icy white
- c) fog is formed around clouds
- d) all of these

Q18. Sunlight passes through a canopy of a dense forest is due to...

- a) Raman effect
- b) Newton's ring
- c) Spectral effect
- d) Tyndall effect

Q.19) Which colour of sky will be observed by an astronaut travelling in space?

- a) red
- b) blue
- c) indigo
- d) black

Q.20) The colour of scattered particles depends upon

- a) density of particle
- b) quality of particle
- c) size of particle
- d) none of these

Q.21) The solutions used for studying the scattering of light are known as.....

- a) colloidal solution
- b) aqueous solution
- c) non aqueous solution
- d) ordinary solution

Q.22) Who is the only Indian scientist to won noble price in Physics for his discovery on scattering due to colloidal solution?

- a) Sir J.C.Bose
- b) Sir C.V.Raman
- c) Sir A.P.J. Kalam
- d) Sir Venkatraman Ramakrishnan

Q.23) The day of discovery of Raman effect which India celebrates as National science day is

- a) 28 Feb
- b) 8 March
- c) 14 April
- d) 30 Oct

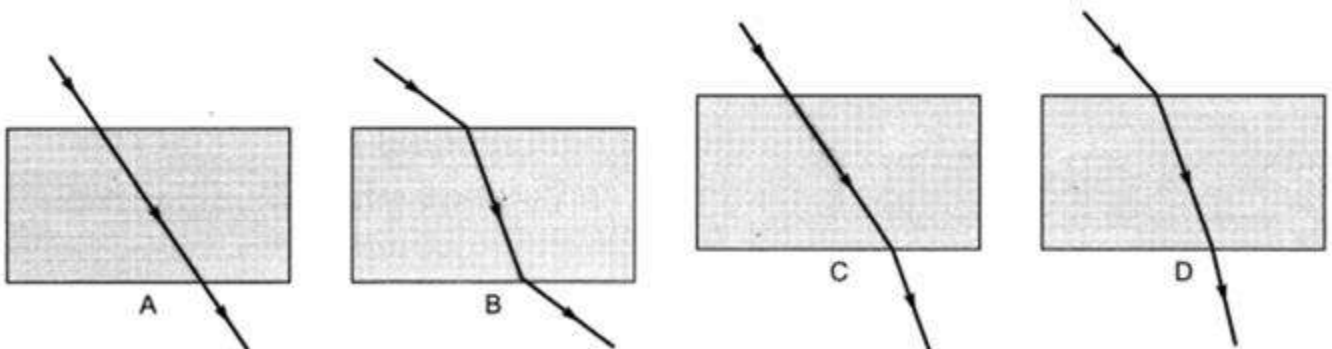
24. A student conducts an experiment using a convex lens. He places the object at a distance of 60 cm in front of the lens and observes that the image is formed at a distance of 30 cm behind the lens. What is the power of the lens?

- (a) 0.005 dioptre
- (b) 0.05 dioptre
- (c) 5 dioptre
- (d) 50 dioptre

25. Rahul conducts an experiment using an object of height 10 cm and a concave lens with focal length 20 cm. The object is placed at a distance of 25 cm from the lens. Can the image be formed on a screen?

- (a) yes, as the image formed will be real
- (b) yes, as the image formed will be erect
- (c) no, as the image formed will be virtual
- (d) no, as the image formed will be inverted

26. The path of a ray of light coming from air passing through a rectangular glass slab traced by four students are shown as A, B, C and D in Figure. Which one of them is correct?



- (a) A
- (b) B

(c) C
(d) D
