Chapter - 10

Light Reflection and Refraction

1. When light rays strike a smooth surface, they bounce back in a regular manner. This phenomenon is called:

a) Refraction

b) Reflection

c) Diffraction

d) Dispersion

Answer: b) Reflection

2. The angle of incidence is equal to the angle of reflection when light falls on a:

a) Transparent medium

b) Translucent medium

c) Opaque medium

d) Polished surface

Answer: d) Polished surface

3. When a ray of light passes from one medium to another, it changes direction. This bending of light is known as:

a) Reflection

b) Dispersion

c) Refraction

d) Absorption

Answer: c) Refraction

4. The refractive index of a medium is:

a) The speed of light in that medium

b) The ratio of the speed of light in a vacuum to the speed of light in that medium

c) The ratio of the speed of light in that medium to the speed of light in a vacuum

d) The density of the medium

Answer: c) The ratio of the speed of light in that medium to the speed of light in a vacuum

5. When a light ray passes from a rarer medium to a denser medium, it:

a) Speeds up

b) Slows down

c) Changes direction

d) Does not change

Answer: b) Slows down

6. A concave lens has:

a) Diverging action on light

b) Converging action on light

c) No effect on light

d) Reflecting action on light

Answer: a) Diverging action on light

7. The image formed by a plane mirror is:

a) Real and enlarged

b) Virtual and enlarged

c) Real and diminished

d) Virtual and diminished

Answer: d) Virtual and diminished

8. The phenomenon of dispersion of white light into its constituent colors can be observed when light passes through a:

a) Prism

b) Concave lens

c) Convex lens

d) Plane mirror

Answer: a) Prism

9. The critical angle is the angle of incidence at which:

a) Light is reflected

b) Light is refracted

c) Total internal reflection occurs

d) Polarization occurs

Answer: c) Total internal reflection occurs

10. The sky appears blue because of:

a) Reflection

b) Dispersion

c) Scattering of light

d) Refraction

Answer: c) Scattering of light

11. When a ray of light passes from a denser medium to a rarer medium, it:

a) Speeds up

b) Slows down

c) Changes direction

d) Does not change

Answer: a) Speeds up

12. The angle of incidence at which the angle of refraction becomes 90 degrees is called the:

a) Angle of deviation

b) Angle of incidence

c) Critical angle

d) Angle of reflection

Answer: c) Critical angle

13. The speed of light is maximum in:

a) Vacuum

b) Air

c) Water

d) Glass

Answer: a) Vacuum

14. The apparent bending of an object when placed in different media is known as:

a) Refraction

b) Reflection

c) Dispersion

d) Diffraction

Answer: a) Refraction

15. The type of mirror that always forms a virtual and diminished image is a:

a) Convex mirror

b) Plane mirror

c) Concave mirror

d) Spherical mirror

Answer: b) Plane mirror

16. The focal length of a convex lens is:

a) Positive

b) Negative

c) Zero

d) Variable

Answer: a) Positive

17. A concave mirror is used to form an image of an object. If the object is moved closer to the mirror, the image will:

a) Move away from the mirror

b) Move closer to the mirror

c) Remain unchanged

d) Disappear

Answer: b) Move closer to the mirror

18. The phenomenon of the bending of light around corners or obstacles is known as:

a) Reflection

b) Refraction

c) Diffraction

d) Dispersion

Answer: c) Diffraction

19. The instrument used to measure the refractive index of a given liquid is called a:

a) Spectrometer

b) Photometer

c) Refractometer

d) Microscope

Answer: c) Refractometer

20. The splitting of white light into its constituent colors is due to the phenomenon of:

a) Scattering

b) Dispersion

c) Refraction

d) Reflection

Answer: b) Dispersion

21. The angle between the incident ray and the normal drawn at the point of incidence is known as the:

a) Angle of incidence

b) Angle of reflection

c) Angle of refraction

d) Angle of deviation

Answer: a) Angle of incidence

22. The phenomenon of the apparent change in the frequency of a sound or light wave due

to the relative motion between the source and the observer is known as:

a) Refraction

b) Reflection

c) Doppler effect

d) Diffraction

Answer: c) Doppler effect

23. The formation of a rainbow is an example of:

a) Refraction

b) Reflection

c) Dispersion

d) Diffraction

Answer: c) Dispersion

24. The distance between the pole and the focus of a concave mirror is called the:

a) Focal length

b) Radius of curvature

c) Principal axis

d) Aperture

Answer: a) Focal length

25. The bending of light waves as they pass from one medium to another due to a change in their speed is called:

a) Diffraction

b) Reflection

c) Dispersion

d) Refraction

Answer: d) Refraction

26. The lens used in the correction of nearsightedness is a:

a) Convex lens

b) Concave lens

c) Plano-convex lens

d) Biconvex lens

Answer: b) Concave lens

27. The image formed by a convex lens when the object is placed beyond the 2F point is:

a) Real and inverted

b) Virtual and inverted

c) Real and erect

d) Virtual and erect

Answer: d) Virtual and erect

28. The phenomenon of the apparent change in the direction of a wave when it passes through an opening or around an obstacle is known as:

a) Refraction

b) Diffraction

c) Dispersion

d) Reflection

Answer: b) Diffraction

29. The phenomenon of the splitting of light into its constituent colors is observed when

light passes through a:

a) Convex lens

b) Concave lens

c) Prism

d) Plane mirror

Answer: c) Prism

30. The phenomenon of the apparent change in the color of an object due to the selective absorption and reflection of light is known as:

a) Dispersion

b) Reflection

c) Refraction

d) Colorimetry

Answer: d) Colorimetry

31. The angle of incidence at which the angle of refraction is 90 degrees is known as the:

a) Angle of reflection

b) Angle of deviation

c) Critical angle

d) Angle of incidence

Answer: c) Critical angle

32. The lens that is thicker at the center and thinner at the edges is a:

a) Convex lens

b) Concave lens

c) Plano-convex lens

d) Biconvex lens

Answer: a) Convex lens

33. The mirror used by dentists to see a large image of the teeth is a:

a) Plane mirror

b) Concave mirror

c) Convex mirror

d) Spherical mirror

Answer: b) Concave mirror

34. When a ray of light passes through a rectangular glass slab, it undergoes:

a) Reflection

b) Dispersion

c) Diffraction

d) Refraction

Answer: d) Refraction

35. The unit of refractive index is:

a) Meter (m)

b) Radian (rad)

c) Joule (J)

d) No unit

Answer: d) No unit

36. A ray of light passing through the center of curvature of a concave mirror:

a) Gets reflected along the same path

b) Passes through the focus

c) Emerges parallel to the principal axis

d) Undergoes total internal reflection

Answer: a) Gets reflected along the same path

37. The image formed by a convex lens when the object is placed between the lens and the focus is:

a) Real and inverted

b) Virtual and inverted

c) Real and erect

d) Virtual and erect

Answer: c) Real and erect

38. The bending of light waves as they pass around the edges of an obstacle or through an opening is known as:

a) Diffraction

b) Reflection

c) Dispersion

d) Refraction

Answer: a) Diffraction

39. The splitting of white light into its constituent colors by a prism is due to:

a) Refraction

b) Reflection

c) Diffraction

d) Dispersion

Answer: d) Dispersion

40. The phenomenon of the change in the speed of light as it passes from one medium to another is a result of:

a) Reflection

b) Diffraction

c) Dispersion

d) Refraction

Answer: d) Refraction

41. The bending of light when it passes through a medium with varying refractive index is known as:

a) Reflection

b) Refraction

c) Dispersion

d) Diffraction

Answer: b) Refraction

42. The power of a lens is measured in:

a) Diopters

b) Watts

c) Meters

d) Joules

Answer: a) Diopters

43. The mirror used in solar furnaces to concentrate sunlight is a:

a) Plane mirror

b) Convex mirror

c) Concave mirror

d) Spherical mirror

Answer: c) Concave mirror

44. The phenomenon of the formation of a sharp image on the retina of the eye by the eye lens is called:

a) Dispersion

b) Refraction

c) Reflection

d) Accommodation

Answer: d) Accommodation

45. The point on the principal axis of a lens where a parallel beam of light converges or appears to diverge from is called the:

a) Center of curvature

b) Optical center

c) Principal focus

d) Aperture

Answer: c) Principal focus

46. The phenomenon of the change in direction of light waves as they pass from one medium to another is governed by:

a) Snell's law

b) Ohm's law

c) Newton's laws of motion

d) Boyle's law

Answer: a) Snell's law

47. The ability of the eye to focus on objects at different distances is called:

a) Retraction

b) Accommodation

c) Reflection

d) Dispersion

Answer: b) Accommodation

48. The angle between the incident ray and the reflected ray is known as the:

a) Angle of incidence

b) Angle of refraction

c) Angle of deviation

d) Angle of reflection

Answer: d) Angle of reflection

49. A concave lens is also known as a:

a) Diverging lens

b) Converging lens

c) Plano-concave lens

d) Biconvex lens

Answer: a) Diverging lens

50. The ability of a lens to converge or diverge light rays is determined by its:

a) Aperture

b) Focal length

c) Power

d) Curvature

Answer: c) Power