

## Chapter -11

### The Human Eye and The Colourful World

1. The human eye can be compared to a:

- a) Simple lens
- b) Convex lens
- c) Concave lens
- d) Compound microscope

Answer: b) Convex lens

2. The ciliary muscles in the eye help in:

- a) Changing the shape of the cornea
- b) Changing the size of the pupil
- c) Changing the focal length of the eye lens
- d) Changing the color perception of the eye

Answer: c) Changing the focal length of the eye lens

3. The phenomenon of persistence of vision is responsible for:

- a) Focusing of light rays on the retina
- b) Formation of the blind spot
- c) Formation of an afterimage
- d) Accommodation of the eye lens

Answer: c) Formation of an afterimage

4. The colored part of the human eye that controls the amount of light entering the eye is the:

- a) Pupil
- b) Retina
- c) Iris
- d) Cornea

Answer: c) Iris

5. The retina of the eye contains two types of photoreceptor cells, which are called:

- a) Rods and cones
- b) Cones and lenses
- c) Lenses and cornea
- d) Rods and cornea

Answer: a) Rods and cones

6. The image formed on the retina of the eye is:

- a) Real and inverted
- b) Real and erect
- c) Virtual and inverted
- d) Virtual and erect

Answer: a) Real and inverted

7. The phenomenon of the bending of light as it passes from one medium to another of different refractive indices is called:

- a) Reflection
- b) Dispersion
- c) Diffraction
- d) Refraction

Answer: d) Refraction

8. The colors of the rainbow, in order, are:

- a) Red, orange, yellow, green, blue, indigo, violet
- b) Violet, indigo, blue, green, yellow, orange, red
- c) Red, orange, yellow, green, blue, violet, indigo
- d) Violet, blue, indigo, green, yellow, orange, red

Answer: a) Red, orange, yellow, green, blue, indigo, violet

9. The phenomenon of splitting white light into its constituent colors is known as:

- a) Dispersion
- b) Reflection
- c) Refraction
- d) Scattering

Answer: a) Dispersion

10. The apparent shift in the position of an object when viewed from different angles is called:

- a) Scattering
- b) Dispersion
- c) Apparent motion
- d) Parallax

Answer: d) Parallax

11. The ability of the eye to see objects at a distance as well as nearby objects is known as:

- a) Astigmatism
- b) Hypermetropia

- c) Myopia
- d) Accommodation

Answer: d) Accommodation

12. The near point of the human eye is typically at a distance of about:

- a) 25 cm
- b) 50 cm
- c) 100 cm
- d) 200 cm

Answer: a) 25 cm

13. The distant point up to which the human eye can see objects clearly without strain is called the:

- a) Near point
- b) Far point
- c) Focal point
- d) Principal point

Answer: b) Far point

14. The condition in which a person can see distant objects clearly but has difficulty in seeing nearby objects is called:

- a) Astigmatism
- b) Hypermetropia
- c) Myopia
- d) Presbyopia

Answer: b) Hypermetropia

15. The defect of vision in which a person can see nearby objects clearly but has difficulty in seeing distant objects is called:

- a) Astigmatism
- b) Hypermetropia
- c) Myopia
- d) Presbyopia

Answer: c) Myopia

16. The condition in which the cornea is irregularly shaped, causing blurred and distorted vision, is called:

- a) Astigmatism
- b) Hypermetropia
- c) Myopia
- d) Presbyopia

Answer: a) Astigmatism

17. The transparent, biconvex structure behind the iris that helps in focusing light on the retina is called the:

- a) Pupil
- b) Retina
- c) Lens
- d) Cornea

Answer: c) Lens

18. The colored part of the human eye that controls the size of the pupil is the:

- a) Pupil

b) Retina

c) Iris

d) Lens

Answer: c) Iris

19. The process of adjustment of the focal length of the eye lens to focus on objects at different distances is called:

a) Reflection

b) Dispersion

c) Diffraction

d) Accommodation

Answer: d) Accommodation

20. The angle formed between the incident ray and the refracted ray when light passes from a denser medium to a rarer medium is called the:

a) Angle of incidence

b) Angle of reflection

c) Angle of refraction

d) Angle of deviation

Answer: c) Angle of refraction

21. The part of the eye that is responsible for color vision is the:

a) Pupil

b) Cornea

c) Retina

d) Lens

Answer: c) Retina

22. The absence of one or more types of cones in the eye leads to:

- a) Hypermetropia
- b) Myopia
- c) Night blindness
- d) Color blindness

Answer: d) Color blindness

23. The perception of different colors by cones in the eye is due to their sensitivity to different:

- a) Wavelengths of light
- b) Intensities of light
- c) Frequencies of light
- d) Polarizations of light

Answer: a) Wavelengths of light

24. The colors of light that are least deviated when passing through a prism are:

- a) Red and orange
- b) Yellow and green
- c) Blue and indigo
- d) Violet and red

Answer: d) Violet and red

25. The splitting of white light into its constituent colors when it passes through a prism is an example of:

- a) Reflection

b) Dispersion

c) Refraction

d) Diffraction

Answer: b) Dispersion

26. The colors of light that combine to form white light are:

a) Red, green, and blue

b) Yellow, cyan, and magenta

c) Red, green, and violet

d) Orange, green, and blue

Answer: a) Red, green, and blue

27. The primary colors of pigments used in color mixing are:

a) Red, green, and blue

b) Yellow, cyan, and magenta

c) Red, green, and violet

d) Orange, green, and blue

Answer: b) Yellow, cyan, and magenta

28. The phenomenon of the apparent change in the frequency of sound waves due to the relative motion between the source and the observer is called:

a) Reflection

b) Dispersion

c) Doppler effect

d) Interference

Answer: c) Doppler effect



29. When an object moves towards an observer, the sound waves received by the observer are:

- a) Compressed
- b) Stretched
- c) Unchanged
- d) Cancelled out

Answer: a) Compressed

30. When an object moves away from an observer, the sound waves received by the observer are:

- a) Compressed
- b) Stretched
- c) Unchanged
- d) Cancelled out

Answer: b) Stretched

31. The phenomenon in which light rays get scattered by tiny particles in the atmosphere, leading to the blue color of the sky, is called:

- a) Reflection
- b) Dispersion
- c) Diffraction
- d) Scattering

Answer: d) Scattering

32. The colors that are most deviated when passing through a prism are:

- a) Red and orange
- b) Yellow and green

c) Blue and indigo

d) Violet and red

Answer: c) Blue and indigo

33. The condition in which a person can see objects clearly only in dim light is called:

a) Hypermetropia

b) Myopia

c) Night blindness

d) Astigmatism

Answer: c) Night blindness

34. The unit used to measure the power of a lens is:

a) Diopters

b) Watts

c) Meters

d) Joules

Answer: a) Diopters

35. The phenomenon in which the shape of the cornea or lens is not perfectly spherical, leading to blurred vision, is called:

a) Astigmatism

b) Hypermetropia

c) Myopia

d) Presbyopia

Answer: a) Astigmatism

36. The change in the direction of light as it passes around the edges of an obstacle or aperture is called:

- a) Reflection
- b) Dispersion
- c) Diffraction
- d) Refraction

Answer: c) Diffraction

37. The transparent, protective outer covering of the eye is called the:

- a) Pupil
- b) Retina
- c) Iris
- d) Cornea

Answer: d) Cornea

38. The transparent, jelly-like substance that fills the space between the lens and the retina is called the:

- a) Pupil
- b) Retina
- c) Iris
- d) Vitreous humor

Answer: d) Vitreous humor

39. The ability of the eye to see objects clearly at a distance but not nearby objects is called:

- a) Astigmatism
- b) Hypermetropia

- c) Myopia
- d) Presbyopia

Answer: b) Hypermetropia

40. The area on the retina that contains only cones and is responsible for the sharpest vision is called the:

- a) Fovea
- b) Blind spot
- c) Optic nerve
- d) Lens

Answer: a) Fovea

41. The condition in which a person experiences difficulty in focusing on nearby objects due to the loss of elasticity of the eye lens with age is called:

- a) Astigmatism
- b) Hypermetropia
- c) Myopia
- d) Presbyopia

Answer: d) Presbyopia

42. The point at which the optic nerve leaves the retina and no photoreceptor cells are present is called the:

- a) Fovea
- b) Blind spot
- c) Optic disc
- d) Lens

Answer: c) Optic disc

43. The ability of the eye to adjust its focal length in order to see objects at different distances is called:

- a) Reflection
- b) Dispersion
- c) Accommodation
- d) Refraction

Answer: c) Accommodation

44. The lens used to correct the defect of myopia is a:

- a) Convex lens
- b) Concave lens
- c) Bifocal lens
- d) Plano-concave lens

Answer: b) Concave lens

45. The lens used to correct the defect of hypermetropia is a:

- a) Convex lens
- b) Concave lens
- c) Bifocal lens
- d) Plano-convex lens

Answer: a) Convex lens

46. The colored part of the human eye that controls the amount of light entering the eye is the:

- a) Pupil
- b) Retina

- c) Iris
- d) Cornea

Answer: c) Iris

47. The distance between the optical center of a lens and its principal focus is called the:

- a) Focal length
- b) Radius of curvature
- c) Aperture
- d) Optical axis

Answer: a) Focal length

48. The angle formed between the incident ray and the refracted ray when light passes from a rarer medium to a denser medium is called the:

- a) Angle of incidence
- b) Angle of reflection
- c) Angle of refraction
- d) Angle of deviation

Answer: c) Angle of refraction

49. The condition in which a person can see nearby objects clearly but has difficulty in seeing distant objects is called:

- a) Astigmatism
- b) Hypermetropia
- c) Myopia
- d) Presbyopia

Answer: c) Myopia

50. The phenomenon of bending of light waves around obstacles or edges is called:

- a) Reflection
- b) Dispersion
- c) Diffraction
- d) Refraction

Answer: c) Diffraction