Human Eye and Colourful World

Question 1.
ssertion: Blind spot is a small area of the retina which is insensitive to light where the optic nerve leaves the eye.
Reason: There are no rods or cones present at the junction of optic nerve and retina in the eye.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
(e) Both A and R are false.

▼ Answer

(a) Both A and R are true and R is the correct explanation of A.

Question 2.
The defect of the eye in which the eyeball becomes too long is
(a) myopia
(b) hypermetropia
(c) presbyopia
(d) cataract

▼ Answer

(a) myopia

Question 3.
What type of image is formed by the eye lens on the retina?
(a) Real and erect
(b) Virtual and inverted
(c) Real and inverted
(d) Virtual and erect

▼ Answer

(c) Real and inverted

Question 4.
The amount of light entering the eye can be controlled by the
(a) iris
(b) pupil
(c) cornea
(d) ciliary muscles

▼ Answer

(b) pupil

Question 5.
At noon, the Sun appears white as
(a) blue colour is scattered the most
(b) red colour is scattered the most
(c) light is least scattered
(d) all the colours of the white light are scattered away

▼ Answer

(c) light is least scattered

Question 6.
Twinkling of stars is due to
(a) reflection of light by clouds
(b) scattering of light by dust particles
(c) dispersion of light by water drops
(d) atmospheric refraction of starlight

▼ Answer

(d) atmospheric refraction of starlight

Question 7.
The splitting of white light into different colours on passing through a prism is called
(a) reflection
(b) refraction
(c) dispersion
(d) deviation

▼ Answer

(c) dispersion

Question 8.
A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using a lens of power
(a) + 0.5 D
(b) – 0.5 D
(c) + 0.2 D
(d) – 0.2 D

▼ Answer

(b) – 0.5 D

Question 9.
The clear sky appears blue because
(a) blue light gets absorbed in the atmosphere.
(b) ultraviolet radiations are absorbed in the atmosphere.
(c) violet and blue lights get scattered more than lights of all other colours by the atmosphere.
(d) light of all other colours is scattered more than the violet and blue colour lights by the atmosphere.

▼ Answer

(c) violet and blue lights get scattered more than lights of all other colours by the atmosphere.

Question 10.
One cannot see through the fog, because
(a) refractive index of the fog is very high
(b) light suffers total reflection at droplets
(c) fog absorbs light
(d) light is scattered by the droplets

▼ Answer

(d) light is scattered by the droplets

Question 11.
Refraction of light by the earth's atmosphere due to variation in air density is called
(a) atmospheric reflection
(b) atmospheric dispersion
(c) atmospheric scattering
(d) atmospheric refraction

▼ Answer

(d) atmospheric refraction

Question 12.
The deflection of light by minute particles and molecules of the atmosphere in all direction is called …….. of light.
(a) dispersion
(b) scattering
(c) interference
(d) tyndell effect

▼ Answer

(c) interference

Question 13.
The air layer of atmosphere whose temperature is less then the hot layer behave as optically
(a) denser medium
(b) rarer medium
(c) inactive medium
(d) either denser or rarer medium

▼ Answer

(a) denser medium

Question 14.
The focal length of the eye lens increases when eye muscles.
(a) are relaxed and lens becomes thinner
(b) contract and lens becomes thicker
(c) are relaxed and lens becomes thicker
(d) Contract and lens becomes thinner.

▼ Answer

(a) are relaxed and lens becomes thinner

Question 15.
The colour that is scattered the least by the tiny particles and the atoms/ molecules of the atmosphere is
(a) Violet
(b) Green
(c) yellow
(d) Red

▼ Answer

(d) Red

Question 16.
The image formed on the retina of the human eye is
(a) virtual and inverted
(b) real and inverted
(c) real and erect
(d) virtual and erect

▼ Answer

(b) real and inverted

Question 17.
When a person is myopic, he/ she can clearly see
(a) both nearby and far off objects
(b) Only nearby objects
(c) only far off objects
(d) Neither nearby nor far off objects

▼ Answer

(b) Only nearby objects

Question 18.
The defect of vision in which the person is able to see distant object distinctly but cannot see nearby objects clearly is called
(a) Long-sightedness
(b) Far-sightedness
(c) Hypermetropia
(d) All of the above

▼ Answer

(d) All of the above

Question 19.
The defect of myopia can be corrected by using
(a) Concave lens
(b) Convex lens
(c) Either concave or convex
(d) A complicated combination of lenses.

▼ Answer

(a) Concave lens

Question 20.
Which of the following phenomenon contributes significantly to the reddish appearance of the sun at sunrise or sunset?
(a) Dispersion of light
(b) Scattering of light
(c) Total internal Reflection
(d) Reflection of light from the earth

▼ Answer

(b) Scattering of light

Question 21.
Assertion: Concave mirrors are used as reflectors in torches, vehicle head-lights and in search lights.
Reason: When an object is placed beyond the centre of curvature of a concave mirror, the image formed is real and inverted.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
(e) Both A and R are false.

▼ Answer

(b) Both A and R are true but R is not the correct explanation of A.

Question 22.
Assertion: The near-point of a hypermetropic eye is more than 25 cm away.
Reason: Hypermetropia is corrected using spectacles containing concave lenses.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
(e) Both A and R are false.

▼ Answer

(c) A is true but R is false.

Question 23.
Which of the following is a natural phenomenon which is caused by the dispersion of sunlight in the sky?
(a) Twinkling of stars
(b) Stars seem higher than they actually are
(c) Advanced sunrise and delayed sunset
(d) Rainbow

▼ Answer

(d) Rainbow

Question 24.
The medical condition in which the lens of the eye of a person becomes progressively cloudy resulting in blurred vision is called
(a) myopia
(b) hypermetropia
(c) presbyopia
(d) cataract

▼ Answer

(d) cataract

Question 25.
The least distance of distinct vision for a normal eye is
(a) infinity
(b) 25 cm
(c) 2.5 cm
(d) 25 m

▼ Answer

(b) 25 cm

Question 26.
The defect of vision in which a person cannot see the distant objects clearly but can see nearby objects clearly is called
(a) myopia
(b) hypermetropia
(c) presbyopia
(d) bifocal eye

▼ Answer

(a) myopia

Question 27.
A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using a lens of power
(a) + 0.5 D
(b) – 0.5 D
(c) + 0.2 D
(d) – 0.2 D

▼ Answer

(b) -0.5 D

Question 28.
Near and far points of a young person normal eye respectively are
(a) 0 and infinity
(b) 0 and 25 cm
(c) 25 cm and infinity
(d) 25 cm and 150 cm.

▼ Answer

(c) 25 cm and infinity

Question 29.
Twinkling of stars is due to atmospheric
(a) dispersion of light by water droplets
(b) refraction of light by different layers of varying refractive indices
(c) scattering of light by dust particles
(d) internal reflection of light by clouds.

▼ Answer

(b) refraction of light by different layers of varying refractive indices

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Question 30.
The danger signals installed at the top of tall buildings are red in colour. These can be easily seen from a distance because among all other colours, the red light
(a) is scattered the most by smoke or fog
(b) is scattered the least by smoke or fog
(b) is absorbed the most by smoke or fog
(c) moves fastest in air

▼ Answer

(b) is scattered the least by smoke or fog

Question 31.
When white light enters a prism, it gets split into its constituent colours. This is due to
(a) different refractive index for different wavelength of each colour
(b) each colours has same velocity in the prism.
(c) prism material have high density.
(d) Scattering of light

▼ Answer

(a) different refractive index for different wavelength of each colour

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Question 32.
The change in focal length of an eye lens is caused by the action of the
(a) Pupil
(b) Retina
(c) Cilliary muscles
(d) Iris

▼ Answer

(c) Cilliary muscles

Question 33.
The human eye forms the image of an object at its
(a) Cornea
(b) Iris
(c) Pupil
(d) Retina

▼ Answer

(d) Retina

Question 34.
The least distance of distinct vision for an eye lens is caused by the action of the
(a) 25 m
(b) 2.5 cm
(c) 25 cm
(d) 2.5 m

▼ Answer

(c) 25 cm

Question 35.
The human eye can focus objects at different distances by adjusting the focal length of the eye lens. This is due to
(a) Presbyopia
(b) Accommodation
(c) Near-sightedness
(d) Far-sightedness

▼ Answer

(b) Accommodation

Question 36.
Bi-focal lens are required to correct
(a) astigmatism
(b) coma
(c) myopia
(d) presbyopia

▼ Answer

(d) presbyopia

Question 37.
The ability of eye lens to adjust its focal length to form a sharp image of the object at varying distances on the retina is called
(a) Power of observation of the eye
(b) Power of adjustment of the eye
(c) Power of accommodation of the eye
(d) Power of enabling of the eye

▼ Answer

(c) Power of accommodation of the eye

Question 38.
Myopia and hypermetropia can be corrected by
(a) Concave and plano-convex lens
(b) Concave and convex lens
(c) Convex and concave lens
(d) Plano-concave lens for both defects.

▼ Answer

(b) Concave and convex lens

Question 39.
The muscular diaphragm that controls the size of the pupil is
(a) cornea
(b) ciliary muscles
(c) iris
(d) retina

▼ Answer

(c) iris

Question 40.
The black opening between the aqueous humour and the lens is called
(a) retina
(b) iris
(c) cornea
(d) pupil

▼ Answer

(d) pupil
