10. The Human Eye and the Colourful World - Board Exam Questions (1 Mark)

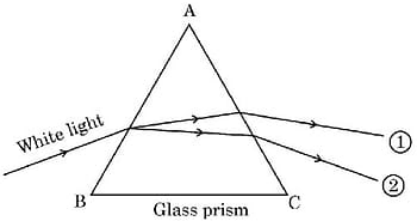
Practice these questions online at pschool.in/science/ncert/g10/chap-10

1 Mark Questions (MCQ)

1) *When you look at an object very close to your eyes, the:*
(a) Ciliary muscles of your eye contract and the eye lens becomes thick
(b) Ciliary muscles of your eye get relaxed and the eye lens becomes thick
(c) Ciliary muscles of your eye contract and the eye lens becomes thin
(d) Ciliary muscles of your eye get relaxed and the eye lens becomes thin

2) *A thin beam of white light falls on a face of a glass prism and a spectrum is obtained on a screen. Which of the following options is the correct sequence of colours from top to bottom on the screen?*
(a) Red, Green, Yellow, Violet, Blue (b) Red, Yellow, Green, Blue, Violet
(c) Violet, Blue, Green, Yellow, Red (d) Violet, Red, Green, Yellow, Blue

3) *Observe the given ray diagram showing refraction through a prism and choose the correct option for colour of rays 1 and 2:*



(a) Colour of ray 1: Blue, Colour of ray 2: Red
(b) Colour of ray 1: Green, Colour of ray 2: Yellow
(c) Colour of ray 1: Red, Colour of ray 2: Violet
(d) Colour of ray 1: Violet, Colour of ray 2: Red

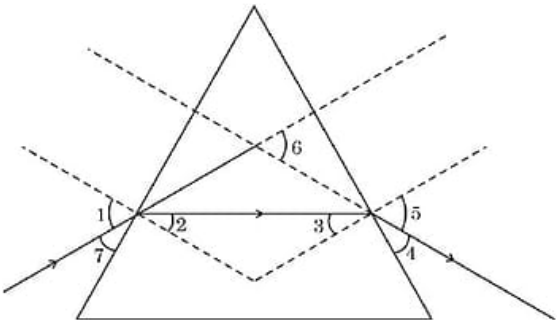
4) *The pair of eye parts responsible for admitting different amount of light in to the eyes is*
(a) Iris and pupil (b) Ciliary muscles and pupil
(c) Retina and Iris (d) Ciliary muscles and cornea

5) *The vision defect which arises due to gradual weakening of the ciliary muscles and diminishing flexibility of eye lens is:*
(a) Myopia (b) Hypermetropia
(c) Presbyopia (d) Myopia and hypermetropia both

6) *To restore clear vision in persons whose size of the eye ball has reduced, he/she is suggested to use suitable*
(a) Converging lens (b) Diverging lens (c) Bifocal lens (d) Cylindrical lens

7) *An old person is suffering from an eye defect caused by weakening of ciliary muscles and diminishing flexibility of the eye lens. If the defect of vision is 'a' which can be corrected by lens 'b', then 'a' and 'b' respectively are:*
(a) hypermetropia and convex lens (b) presbyopia and bifocal lens
(c) myopia and concave lens (d) myopia and bifocal lens

8) *In the given figure the angle of incidence and the angle of deviation respectively are:*



(a) 1 and 5 (b) 7 and 6 (c) 7 and 4 (d) 1 and 6

9) *When a beam of white light passes through a region of very fine dust particles, the colour of light that scatters the most in that region is:*
(a) red (b) orange (c) blue (d) yellow

10) *The possible way to restore clear vision of those people whose eyeball has elongated is the use of suitable*
(a) bifocal lens (b) concave lens (c) converging lens (d) convex lens

11) *The part of human eye which controls the amount of light entering into it.*
(a) Iris (b) Cornea (c) Ciliary muscles (d) Pupil

12) *Choose the correct option from the below which explains the reason for us to perceive the day sky as blue.*
(a) As sunlight passes through the atmosphere, shorter wavelengths, such as blue are scattered more than other colors
(b) The sky appears blue because all colors are scattered equally, but blue light is stronger and more visible to the human eye
(c) The blue color of the sky is due to longer wavelengths like red and orange scattering more than shorter wavelengths, making blue stand out more
(d) The atmosphere contains blue-colored particles that give the sky its blue appearance

13) *The lens system of human eye forms an image on a light sensitive screen, which is called as:*
(a) Cornea (b) Ciliary muscles (c) Optic nerves (d) Retina

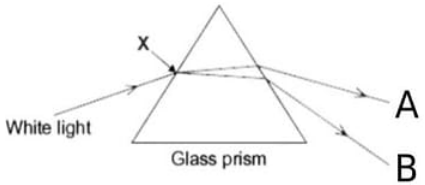
14) *Consider the following statements in the context of human eye:*
(a) The diameter of the eye ball is about 2.3 cm.
(b) Iris is a dark muscular diaphragm that controls the size of the pupil.
(c) Most of the refraction for the light rays entering the eye occurs at the crystalline lens.
(d) While focusing on the objects at different distances the distance

between the crystalline lens and the retina is adjusted by ciliary muscles. The correct statements are –
(a) (a) and (b) (b) (a), (b) and (c) (c) (b), (c) and (d) (d) (a), (c) and (d)

15) *The Phenomena of light involved in the formation of a rainbow in the sky are*
(a) Refraction, dispersion and reflection
(b) Refraction, dispersion and total internal reflection
(c) Dispersion, scattering and reflection
(d) Dispersion, refraction and internal reflection

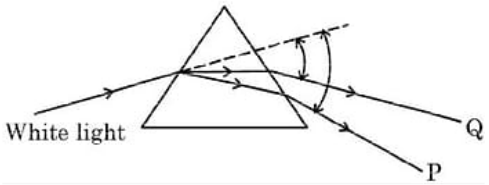
16) *The colour of light for which the refractive index of glass is minimum, is:*
(a) Red (b) Yellow (c) Green (d) Violet

17) *Choose the correct option for the colour of rays for A and B.*



(a) Colour of Ray A: Blue, Colour of Ray B: Red
(b) Colour of Ray A: Green, Colour of Ray B: Yellow
(c) Colour of Ray A: Red, Colour of Ray B: Violet
(d) Colour of Ray A: Violet, Colour of Ray B: Indigo

18) *In the following diagram showing dispersion of white light by a glass prism, the colours 'P' and 'Q' respectively are –*



(a) Red and Violet (b) Violet and Red (c) Red and Blue (d) Orange and Green

19) *In human eye the part which allows light to enter into the eye is –*
(a) Retina (b) Pupil (c) Eye lens (d) Cornea

20) *When light enters the atmosphere it strikes on extremely fine particles, which deflect the rays of light in all possible directions, This is due to -*
(a) reflection of light (b) atmospheric refraction
(c) scattering of light (d) dispersion of light

Assertion and Reason

1) *Assertion (A): When rays of white light pass through a prism, on emerging they give spectrum of seven colours.*
Reason (R): It is due to the scattering of light that red light bends minimum and violet light bends the maximum.

2) *Assertion (A): When ciliary muscles contract, eye lens becomes thin.*
Reason (R): Ciliary muscles control the power of the eye lens.

3) *Assertion (A): The rainbow is a natural spectrum of sunlight in the sky.*
Reason (R): Rainbow is formed in the sky when the sun is overhead and water droplets are also present in air.

4) *Assertion (A): Myopic eye cannot see distant objects distinctly.*
Reason (R): For the correction of myopia converging lenses of appropriate power are prescribed by eye-surgeons.

5) *Assertion (A): Red light signals are used to stop the vehicles on the road.*
Reason (R): Red coloured light is scattered the most so as to be visible from a large distance.

6) *Assertion (A): A person suffering from myopia cannot see the distant objects clearly.*
Reason (R): A converging lens is used for the correction of myopic eye as it can form real as well as virtual images of the objects placed in front of it.