Chapter-2

Worksheet-1

Section 1

Q1. Draw a well labelled neat sketch of a human eye.

Q2. Even though we can see from one eye, why do we have two?

Q3. What do you mean by power of accommodation? Explain in brief.

Q4. What is Presbyopia? How can it be cured?

Q5. What is a prism? On what principle it works?

Q6. How a rainbow is formed? What are the phenomena we observe in formation of rainbow?

Q7. Why do stars' twinkle? Explain in brief.

Q8. Every morning, we observe Sun 2 minutes early than the original Sunrise. Why?

Q9. Write a short note on 'Tyndall effect'.

Q10**.** Explain the phenomena due to which sky appears to be blue.

Section 2

Q11. A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using lens of power

a) +0.5 D
b) -0.5 D
c) +0.2 D
d) -0.2 D

Answer: b

Q12. A student sitting on the last bench can read the letters written on the blackboard but is not able to read / the letters written in his textbook. Which of the following statements is correct?

a) The near point of his eyes has receded away.
b) The near point of his eyes has come closer to him.
c) The far point of his eyes has come closer to him.
d) The far point of his eyes has receded away.

Answer: a

Q13. At noon the sun appears white as

a) light is least scattered.
b) all the colours of the white light are scattered away.
c) blue colour is scattered the most.
d) red colour is scattered the most.

Answer: a

Q14. Which of the following phenomena of light are involved in the formation of a rainbow?

a) Reflection, refraction and dispersion
b) Refraction, dispersion and total internal reflection
c) Refraction, dispersion and internal reflection
d) Dispersion, scattering and total internal reflection

Answer: c

Q15. 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

Q16. Which of the following statements is correct regarding the propagation of light of different colours of white light in air?

a) Red light moves fastest.
b) Blue light moves faster than green light.
c) All the colours of the white light move with the same speed.
d) Yellow light moves with the mean speed as that of the red and the violet light.

Answer: c

Q17. 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.
c) is absorbed the most by smoke or fog.
d) moves fastest in air.

Answer: b

Q18. Which of the following phenomena 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 of light
d) Reflection of light from the earth

Answer: b

Q19. When light rays enter the eye, most of the refraction occurs at the

a) Crystalline lens
b) Outer surface of the cornea
c) Iris
d) Pupil

Answer: b

Q20. 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