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