

Board – CBSE

Class – 10<sup>th</sup>

Topic – Human eye & colourful world

1. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is 1 m. What is the power of the lens required to correct this defect? Assume that near point of the normal eye is 25 cm.
2. A 14 year old student is not able to see clearly the questions written on the black board placed at a distance of 5 m from him.
  - (a) Name the defect of vision he is suffering from?
  - (b) Draw the diagram to show this defect?
  - (c) Name the type of lens used to correct this defect?
  - (d) Name two possible causes of this defect.
  - (e) Draw the diagram to show how this defect can be corrected.
3. A certain person has minimum distance of distinct vision of 150 cm. He wishes to read at a distance of 25 cm. What focal length glass should he use? What is the nature of eye defect?
4. Explain why the planets do not twinkle.
5. A person needs a lens of power -5.5 dioptre for correcting his distant vision. For correcting his near vision he needs a lens +1.5 dioptre. What is the focal length of the lens required for correcting (i) distant vision, and (ii) near vision?
6. What is presbyopia? State the causes of this defect? How is presbyopia of a person corrected?
7. A person is known to use a lens of power
  - (i) -5.5 D for his distant vision
  - (ii) +1.5 D for his near visionCalculate the focal length of the lens used for correcting his
  - (a) Distant vision and (b) Near vision problems.
8.
  - (a) What is scattering of light?
  - (b) Astronauts observe the sky as dark instead of blue why?
9. Name the defect of vision in person
  - (a) Whose near point is more than 25 cm away?
  - (b) Whose far point is less than infinity.
10. Why does the Sun appear reddish early in the morning?

11. Name the phenomenon responsible for the observed twinkling of stars. Will this twinkling be observed by an observer on the moon.
12. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to correct the problem.
13. What is meant by power of accommodation of eye?
14. A person wears eye glass of focal length 70 cm what is the far point of the person?
15. What is the role of the ciliary muscles?