

Ch-10 The Human Eye and the Colourful World

1. What is the diameter of human eye? What is the function of crystalline lens of human eye?
2. In which type of eye defect far point of the eye gets reduced?
3. Why do birds fly back to their nest in the evening?
4. Why do you take time to find object when you enter in dim lighted room from outside in the sun?
5. Why does ray of light splits when passed from prism?
6. Why doesn't the planets appear to be twinkling?
7. Why can't we see things very close to our eyes?
8. When we see any object through the hot air over the fire, it appears to be wavy, moving slightly. Explain.
9. Why does sky appear blue on a clear day?
10. What eye defect is hypermetropia? Describe with a ray diagram how this defect of vision can be corrected by using an appropriate lens.
11. A star sometimes appears brighter and some other times fainter. What is this effect called? State the reason for this effect.
12. A student cannot see a chart hanging on a wall placed at a distance of 3 m from him. Name the defect of vision he is suffering from. How can it be corrected? Draw ray diagrams for the –
 - a. defect of vision, and
 - b. for its correction.
13. Why is red color selected for danger signal lights?
14. Answer the following –
 - a. A person cannot read newspaper placed nearer than 50 cm from his eyes. Name the defect of vision he is suffering from. Draw a ray diagram to illustrate this defect. List its two possible causes. Draw a ray diagram to show how this defect may be corrected using a lens of appropriate focal length.
 - b. We see advertisements for eye donation on television or in newspapers. Write the importance of such advertisement.
15. Explain giving reason why the sky appears blue to an observer from the surface of the earth? What will the color of the sky be for an astronaut staying in the international space station orbiting the earth? Justify your answer giving reason.
16. With the help of a labeled diagram, explain why the sun appears reddish at the sun-rise and the sunset.
17. Answer the following –
 - a. What is dispersion of white light? What is the cause of this dispersion? Draw a diagram to show the dispersion of white light by a glass prism.
 - b. A glass prism is able to produce a spectrum when white light passes through it but a glass slab does not produce any spectrum. Explain why?
18. Name the transparent membrane through which light enters the first in the eyes.
19. What is the function of iris?
20. What is persistence of vision?
21. What is Tyndall effect?

22. The image formed on retina is inverted but we can see the objects erect. Why?
23. What is night blindness and color blindness?
24. Draw a well labeled diagram of eye.
25. Draw a labeled diagram of rainbow formation. Also explain the phenomena.