

**Class: 10**  
**Subject: Physics**  
**Topic: Human eye and the colorful world**  
**No. of Questions: 24**

- Q1. A man can read the number of a distant bus clearly but he finds difficulty in reading a book. Which defect of the eye is he suffering from? What type of spectacles lens should be used to correct the defect?
- Q2. What type of spectacles should be worn by a person having the defects of myopia as well as hypermetropia? How does it help?
- Q3. The sun near the horizon appears flattened at the sun set and sun rise. Explain why.
- Q4. Explain why and when the sun is overhead at noon it appears white
- Q5. A boy uses spectacles of focal length -50 cm. Name the defect of vision he is suffering from. Compute the power of this lens.
- Q6. Give the meaning of the term , VIBGYOR' with which phenomenon is it connected?
- Q7. Explain the following terms connected with the eye. (i) Ciliary muscles (ii) Accommodation.
- Q8. What is meant by spectrum of white light?
- Q9. (a) What will be color of the sky in the absence of atmosphere?  
(b) Why are the traffic light signals (or danger signals) of red color?
- Q10. Why does the sky appear dark and black to an astronaut instead of blue?
- Q12. What is Atmospheric Refraction?
- Q13. Describe: Mirage and looming
- Q14. A person with myopic eye cannot see objects beyond 1.2metre distinctly. What should be the nature of corrective lenses to restore proper vision?
- Q15. The far point of myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to enable him to see very distant objects distinctly?
- Q16. The far point of a myopic person is 150 cm in front the eye. Calculate the focal length and power of a lens required to enable him to see distant objects clearly.

- Q17. By giving reasons state your observations when a parallel beam of white light:  
(i) is passed through by hypo-solution and then focused on a white screen  
(ii) is passed through hypo-solution (to which few drops of sulphuric acid is added) and then focused on a white screen.
- Q18. A student sitting at the back of the classroom cannot read clearly the letters written on the blackboard. What advice will a doctor give to her?
- Q19. How are we able to see nearby and also the distant objects clearly?
- Q20. A person needs a lens of power  $-4.5$  D for correction of her vision. (a) What kind of defect in vision is she suffering from? (b) What is the focal length of the corrective lens? (c) What is the nature of the corrective lens?
- Q21. Is the position of a star as seen by us its true position? Justify your answer.
- Q22. Why do we see a rainbow in the sky only after rainfall?
- Q23. Why is the colour of the clear sky blue?
- Q24. Chicken can see only in bright light. What type of cells is present in its retina?