

CHAPTER 11

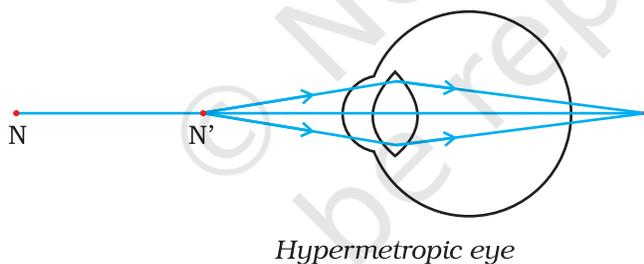
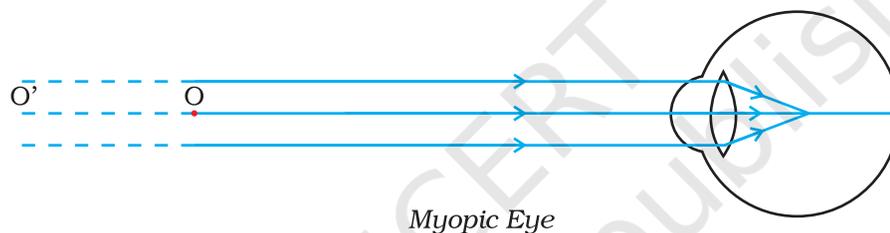
ANSWERS

Multiple Choice Questions

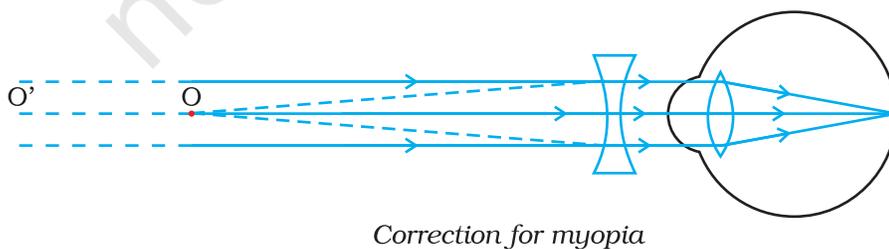
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|---------|---------|---------|---------|
| 1. (b) | 2. (a) | 3. (b) | 4. (a) |
| 5. (c) | 6. (b) | 7. (c) | 8. (c) |
| 9. (b) | 10. (b) | 11. (c) | 12. (b) |
| 13. (a) | 14. (c) | | |

Short Answer Questions

15.



16. **Hint**— The student is suffering from myopia (near sightedness). Doctor advises her to use a concave lens of appropriate power to correct this defect.



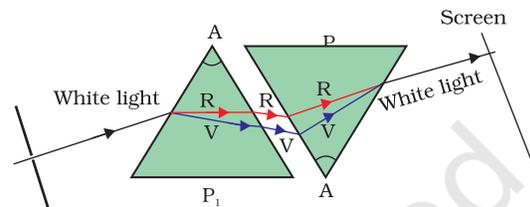
17. **Hint**— Human eye is able to see nearby and distant objects clearly by changing the focal length of the eye lens using its power of accommodation

18. (a) Myopia

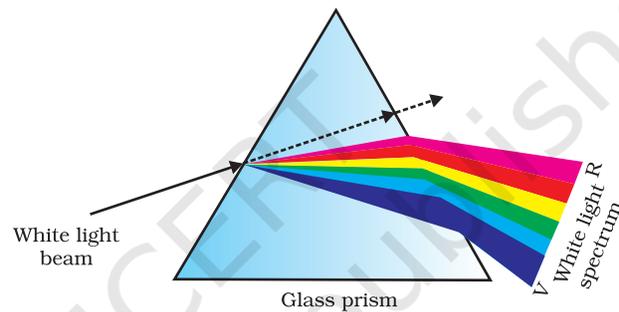
(b) **Hint**— $f = \frac{1}{-4.5} = -\frac{2}{9} = -0.22 \text{ m}$,

(c) Concave lens

19. **Hint**— By using two identical prisms, one placed inverted with respect to the other.



20.

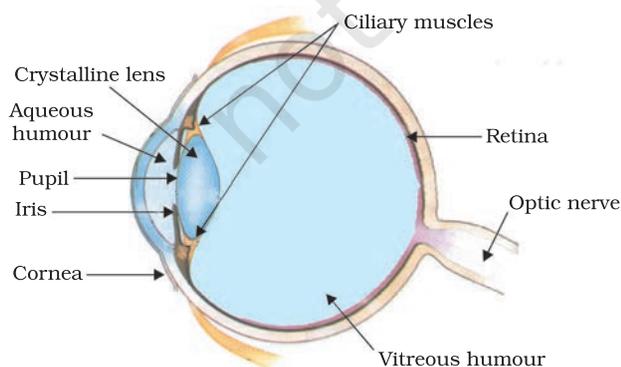


21. No. light from stars undergoes atmospheric refraction which occurs in medium of gradually changing refractive index.

22. **Hint**— The water droplets behave like prisms and disperse sunlight.

23. **Hint**— Blue colour gets scattered the maximum.

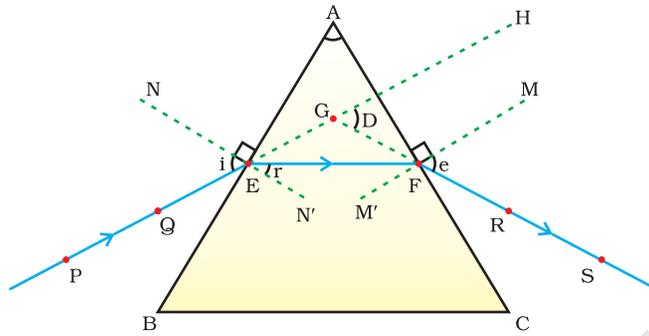
24. **Hint**— During sunrise and sunset the sun appears reddish whereas at noon the sun appears white. Explanation should be given in terms of atmospheric depth travelled by light. Colours are different due to scattering of light by atmospheric particles.



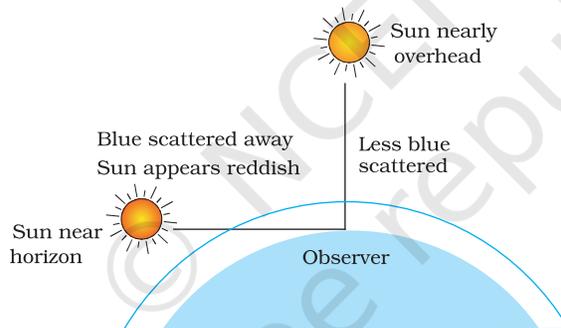
Long Answer Questions

25. **Hint**— Give explanation of each part and discuss power of accommodation.

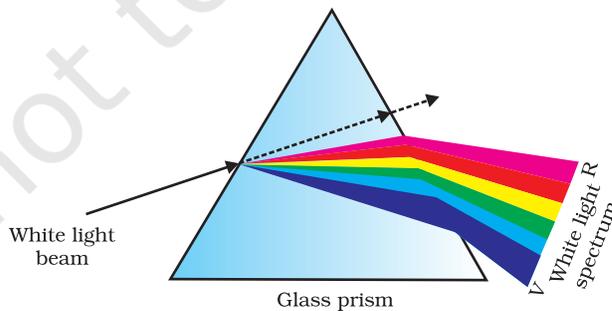
26. **Hint**— When a person is not able to see distant objects clearly but can see nearby objects clearly then he is considered to be myopic. If it is otherwise, he is hypermetropic. Give explanation based on figures.
27. Give explanation based on Figure. Angle of deviation is the angle D, between the incident ray and the emergent ray when a ray of light passes through a glass prism.



28. **Hint**— Sun appears reddish at sunrise or sunset as blue light gets scattered away.



29. Give explanation using the Figure.



30. **Hint**— Give explanation using the Figure. Planets do not twinkle as they are closer to earth and are seen as extended sources.