

# INTERNATIONAL INDIAN SCHOOL BURAIDAH

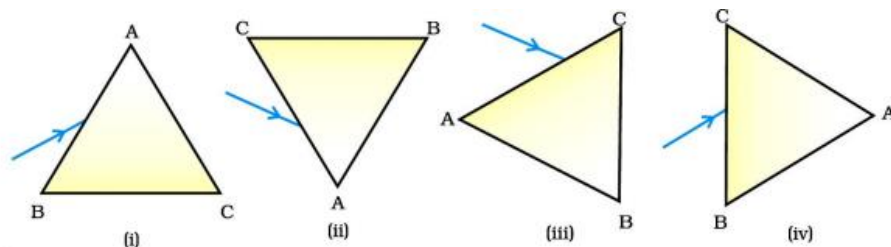
## WORKSHEET FOR THE ACADEMIC YEAR 2026-27

Class-10 Subject: Physics

CH#11 Human Eye and Colourful World

---

1. What is meant by the power of accommodation of the human eye? Explain how the eye focuses on objects at different distances.
2. A person suffering from myopia cannot see distant objects clearly.
  - (a) Where is the image formed in the eye?
  - (b) Which type of lens is used to correct this defect?
  - (c) Draw a suitable ray diagram.
3. What is hypermetropia? State its causes and explain how it can be corrected using a suitable lens.
4. A student cannot see the writing clearly on the blackboard from the last bench. Identify the possible defect and state how it can be corrected.
5. What happens when a beam of white light passes through a glass prism? Explain the phenomenon with a ray diagram.
6. What is dispersion of light? Name the seven colours obtained when white light is dispersed by a prism.
7. What happens when a beam of white light passes through a glass prism? Explain the phenomenon with a ray diagram.
8. What is dispersion of light? Name the seven colours obtained when white light is dispersed by a prism.
9. Explain why a rainbow is formed in the sky. Draw a suitable diagram.
10. Why do stars appear to twinkle whereas planets generally do not?
11. Explain why the Sun appears reddish during sunrise and sunset.
12. Why is the sky blue during the day?
13. What is the Tyndall effect? Give one example from daily life.
14. Explain the phenomenon of atmospheric refraction with two examples.
15. A person has a far point of 80 cm. Calculate the focal length and power of the corrective lens required. State the nature of the lens.
16. A prism ABC (with BC as base) is placed in different orientations. A narrow beam of white light is incident on the prism as shown in below figure. In which of the following diagrams, after dispersion, the third colour from the top of the spectrum corresponds to the colour of the sky?



Options: (a) (i) (b) (ii) (c) (iii) (d) (iv)

17. The sky appears dark to passengers flying at very high altitudes mainly because:

- (a) scattering of light is not enough at such heights.
- (b) there is no atmosphere at great heights.
- (c) the size of molecules is smaller than the wavelength of visible light.
- (d) the light gets scattered towards the earth.

18. (a) What is visible spectrum?

(b) Why is red used as the stopping light at traffic signals?

(c) Two triangular glass prisms are kept together connected through their rectangular side. A light beam is passed through one side of the combination. Will there be any dispersion? Justify your answer

19. Due to gradual weakening of ciliary muscles and diminishing flexibility of the eye lens a certain defect of vision arises. Write the name of this defect. Name the type of lens required by such persons to improve the vision. Explain the structure and function of such a lens.

20. A person needs a lens of power +3D for correcting his near vision and -3D for correcting his distant vision. Calculate the focal lengths of the lenses required to correct these defects.