INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS:X SUBJECT: PHYSICS DATE:9/6/23

LESSON : HUMAN EYE AND COLOURFUL WORLD

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1. Draw a labelled diagram to explain the formation of a rainbow in the sky.
2. (a) A person is suffering from both myopia and hypermetropia.
   (i) What kind of lenses can correct this defect?
   (ii) How are these lenses prepared?
   (b) A person needs a lens of power +3 D for correcting his near vision and -3 D for correcting his distant vision. Calculate the focal lengths of the lenses required to correct these defects.
3. What eye defect is myopia? Describe with a neat diagram how this defect of vision can be corrected by using a suitable lens.
4. A student is unable to see clearly the words written on the black board placed at a distance of approximately 3 m from him. Name the defect of vision the boy is suffering from. State the possible causes of this defect and explain the method of correcting it.
5. Write the function of each of the following parts of human eye:
   (i) Cornea (ii) Iris (iii) Crystalline lens (iv) Ciliary muscles
6. (a) List two causes of hypermetropia.
   (b) Draw ray diagrams showing (i) a hypermetropic eye and (ii) its correction using suitable optical device
7. A student suffering from myopia is not able to see distinctly the objects placed beyond 5 m.
   (a) List two possible reasons due to which this defect of vision may have arisen. With the help of ray diagrams, explain
   (i) Why the student is unable to see distinctly the objects placed beyond 5 m from his eyes?
   (ii) The type of the corrective lens used to restore proper vision and how this defect is corrected by the use of this lens.
8. Explain in brief the reason for each of the following:
   (a) Advanced sun-rise
   (b) Delayed sun-set
   (c) Twinkling of stars
9. The sky appears dark to passengers flying at very high altitudes. Why?
10. Explain why the planets do not twinkle.