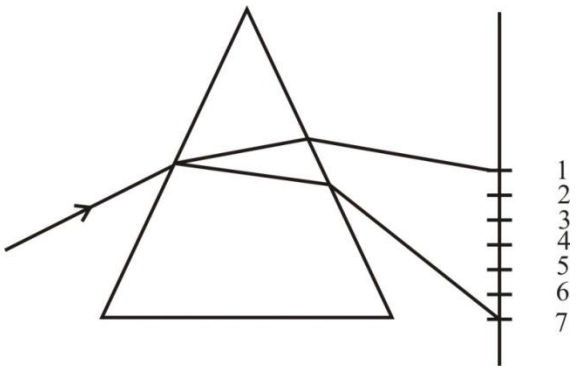
L-11 THE HUMAN EYE AND THE COLOURFUL WORLD

CLASS-X SCIENCE MODULE-3/4

WORKSHEET

1. What is dispersion?
2. What is spectrum?
3. Write the names of colours got from the word VIBGYOR.
4. What is meant by spectrum of white light? How can we recombine the components of white light after a prism has separated them? Draw a diagram to illustrate it.
5. Explain why do the planets not twinkle but the stars twinkle.
6. What is dispersion of white light? What is the cause of such dispersion? Draw a diagram to show the dispersion of white light by a glass prism.
7. 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 is it so?
8. Define the term dispersion of white light. State the colour which bends (i) the least and (ii) the most while passing through a glass prism
9. Name the type of particles which acts as a prism in the formation of rainbow in the sky.
10. What is the cause of dispersion of white light on passing through a prism?
11. What is a spectrum? Why do different coloured rays deviate differently on passing through a glass prism?
12. Name the type of particles which acts as a prism in the formation of rainbow in the sky
13. .A beam of white light falling on a glass prism gets split up into seven colours marked 1 to 7 as shown in the diagram. A student makes the following statements about the spectrum observed on the screen.



a) The colours at positions marked 3 and 5 are similar to the colour of the sky and the colour of gold metal respectively.
Is the above statement made by the student correct or incorrect? Justify.

(b) Which two positions correspond closely to the colour of
(i) a brinjal
(ii) 'danger' or stop signal lights?

14. Draw a ray diagram to show the formation of a rainbow and mark the point where
(i) dispersion, (ii) internal reflection occurs

15. Define the term dispersion of white light. State the colour which bends
(i) the least and (ii) the most while passing through a glass prism.

16. When we place a glass prism in the path of a narrow beam of white light, a spectrum is obtained. What happens when a second identical prism is placed in an inverted position with respect to the first prism? Draw a labelled ray diagram to illustrate it.