

PHYSICS
CH: 11 HUMAN EYE AND
THE COLOURFUL WORLD
WORKSHEET -2

Name: _____

Date: _____

Class: X Sec: ____

MULTIPLE CHOICE QUESTIONS

1. A glass prism has
 - (a) 6 rectangular surfaces
 - (b) 4 rectangular surfaces
 - (c) 2 triangular surfaces and 3 rectangular surfaces
 - (d) none of the above.
2. At noon the sun appears white as
 - (a) Light is least scattered
 - (b) All the colours of the white light are scattered away
 - (c) Blue colour is scattered the most
 - (d) Red colour is scattered the most
3. Which of the following phenomena of light are involved in the formation of a rainbow?
 - (a) Reflection, refraction and dispersion
 - (b) Refraction, dispersion and scattering
 - (c) Refraction, dispersion and internal reflection
 - (d) Dispersion, scattering and total internal reflection
4. Twinkling of stars is due to atmospheric
 - (a) Dispersion of light by water droplets
 - (b) Refraction of light by different layers of varying refractive indices
 - (c) Scattering of light by dust particles
 - (d) Internal reflection of light by clouds

5.The clear sky appears blue because

- a) Blue light gets absorbed in the atmosphere
- b) Ultraviolet radiations are absorbed in the atmosphere
- c) Violet and blue lights get scattered more than lights of all other colours by the atmosphere
- d) Light of all other colours is scattered more than the violet and blue colour lights by the atmosphere

6.Which of the following statements is correct regarding the propagation of light of different colours of white light in air?

- a. Red light moves fastest
- b. Blue light moves faster than green light
- c. All the colours of the white light move with the same speed
- d. Yellow light moves with the mean speed as that of the red and the violet light

7.The danger signals installed at the top of tall buildings are red in colour. These can be easily seen from a distance because among all other colours, the red light

- a. is scattered the most by smoke or fog
- b.is scattered the least by smoke or fog
- c.is absorbed the most by smoke or fog
- d.moves fastest in air

8.Which of the following phenomena contributes significantly to the reddish appearance of the sun at sunrise or sunset?

- a. Dispersion of light
- b. Scattering of light
- c. Total internal reflection of light
- d. Reflection of light from the earth

9.The bluish colour of water in deep sea is due to

- a. The presence of algae and other plants found in water
- b. Reflection of sky in water
- c. Scattering of light
- d. Absorption of light by the sea

10.How many times does a ray of light bend on passing through a prism?

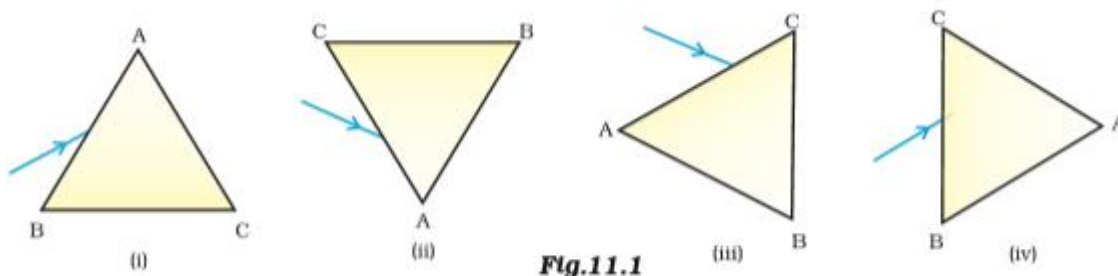
- a.Once
- b.Twice
- c.Thrice
- d.None of these

11. Advanced sunrise and delayed sunset are explained on the basis of
- a. Dispersion of light
 - b. Scattering of light
 - c. Tyndall effect
 - d. Atmospheric refraction.
12. Which phenomenon is not explained on scattering of light?
- a. Red colour of danger signals
 - b. Blue colour of the sky
 - c. White colour of clouds
 - d. Advanced sun rise
13. The splitting of white light into its constituent colours is called
- a. Rainbow
 - b. Atmospheric refraction
 - c. Dispersion of light
 - d. None of these.
14. In a prism which colour deviated most
- a. Red
 - b. Blue
 - c. Green
 - d. Violet
15. The colour of the scattered light depends on
- a. Size of the scattered particles
 - b. Reflected light
 - c. Reflected colour of light
 - d. Intensity of light
16. What happens when white light is passed from air to glass prism
- a. Bends away from normal
 - b. Bends towards normal
 - c. Passes un deviated
 - d. Reflects back

17. A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using a lens of power

- (a) $+0.5\text{ D}$
- (b) -0.5 D
- (c) $+0.2\text{ D}$
- (d) -0.2 D

18. A prism ABC (with BC as a base) is placed in different orientations. A narrow beam of white light is incident on the prism as shown in Figure 11.1. In which of the following cases, after dispersion, the third colour from the top corresponds to the colour of the sky? The Human Eye and the Colourful World CHAPTER 11 Fig. 11.1



- (a) (i)
- (b) (ii)
- (c) (iii)
- (d) (iv)