INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: 11 HUMAN EYE AND COLOURFUL WORLD

Name: _____ Date:_____ Class: X Sec: ___

1. What is scattering of light? Use this phenomenon to explain why (i) the sun appears reddish at sunrise, (ii) the clear sky appears blue.
   (2019 CBSE – 3 marks)
2. What is the cause of dispersion of white light through a glass prism? Draw a ray diagram to show the path of light when two identical glass prism are arranged together in inverted position and a narrow beam of white light is allowed to fall obliquely on one of the faces of the prism.
   (2019 CBSE – 3 marks)
3. A person is unable to see objects distinctly placed within 50cm from his eyes.
   (a) Name the defect of vision the person is suffering from and list its two causes
   (b) Draw a diagram to show the defect of the above case.
   (c) Mention the type of lens used to correct the defect and calculate its power. Assume the near of normal eye to be 25cm.
   (d) Draw a labelled diagram for the correction of the defect in the above case.
   (2019 E – 5 marks)
4. What is the cause of dispersion of white light through a glass prism? Draw a ray diagram
5. A person with a myopic eye cannot see objects beyond a distance of 1.5m. What would be the power of the corrective lens used to restore proper vision?
6. A person can see clearly up to 3m only. Prescribe a lens for him that he can see clearly up to 12m.
7. A person wears glasses of power -2.5 D. IS the person far- sighted or near sighted? What is the far point of the person without glasses?
8. The near point of a person is at 40 cm from the eye. Find the power of the lens he should use while reading at 25 cm.
9. Name the light sensitive cells present in the retina of the eye.
10. Which nerve connects the light sensitive cells of the retina to the brain?
11. What is blind spot and yellow spot?

12. Ciliary muscles of normal eye are in their (i) most relaxed (ii) most contracted state. In which of the two cases is the focal length of eye lens more?

13. What is persistence of vision?

14. Why can't we recognise the colours of objects in a dark room?

15. Why spokes of a rapidly revolving wheel cannot be distinguished?

16. Describe with a ray diagram how person with (a) myopia (b) hypermetropia can be corrected by using spectacles.
17. Why there is no dispersion of light refracted through a rectangular glass slab?
18. The sun can be seen about two minutes before actual sunrise. Give reason.
19. What is colour blindness? What kind of retinal cells are lacking in person suffering from this defect?
20. What is meant by 'persistence of vision'? We are able to see the movie picture in a cinema hall. How does this happen?
21. How will you use two identical prisms so that a narrow beam of light incident on one prism emerges out of the second prism as white light?
22. A person cannot see the objects beyond 80cm from his eye while a person with normal eyesight can see object easily placed up to 160 cm from the eye. Find the nature, the focal length and the power of the correcting lens.
23. State the function of each of the following parts of the human eye:
    (i) Cornea (ii) iris (iii) Pupil (iv) Retina

24. How are we able to se nearby and also the distant objects clearly?
25. Describe the formation of rainbow in the sky with the help of a diagram.