

1 Mark Questions

1. What is least distance of distinct vision? What is its value for a human being?

Ans: At what distance, we can see an object comfortably and distinctly. The distance is called least distance of distinct vision. Its value is 25cm

2. What is angle of vision? What is its value for healthy human being?

Ans: The maximum angle at which we are able to see the whole object is called angle of vision. Its value is 60°

3. Define Power of lens? What are its units?

Ans: The reciprocal of focal length is called power of lens. The unit of power is dioptre.

4. Write a formula to find the refractive index of the material of the prism and explain the terms?

Ans:
$$n = \frac{\sin(A+D)}{2} / \sin\left(\frac{A}{2}\right)$$

Where n = Refractive index of the prism

A = Angle of prism

D = Angle of minimum deviation

5. What is dispersion of light? Give an example?

Ans: The splitting of white light into different colours is called dispersion of light. Example is Rainbow

6. Doctor advised to use 2D lens. What is its focal length?

Ans: Power(P) = 2D

Focal length (f) = ?

$f = 1/P = 1/2 = 0.5 \text{ m (or) } 50 \text{ cm}$

7. What is accommodation of eye lens?

Ans: The ability of eye-lens to change its focal length is called "accommodation of lens"

8. Which type of images forms by eye lens?

Ans: Real and Inverted image formed by eye lens

9. What is the role of rods and cones in human eye?

Ans: Rods-Identify the intensity of light, Cones-Identify the colour

10. How many types of eye defects? What are they?

Ans: There are mainly three common defects of vision. They are

- i) Myopia
- ii) Hypermetropia
- iii) Presbyopia

11. Name the receptors are there in the human eye?

Ans: Rods and Cones

12. How many number of receptors are there in the human eye?

Ans: 125 million receptors

13. How many number of optic-nerve fibers are there in the human eye?

Ans: 1 million optic-nerve

14. What is the function of optic-nerve in the eyes?

Ans: Light signals are transmitted to the brain through optic-nerve fibres.

15. What is meant by a prism?

Ans: A prism is a transparent medium separated from the surrounding medium by at least two plane surfaces which are inclined at a certain angle in such a way that, light incident on one of the plane surfaces emerges from the other plane surface

16. The maximum focal length of Suneel's eye is 2.489 cm. What defect does he has? Which lens is used to correct the defect of him?

Ans: Suneel's eye defect is Myopia. Correct this defect by using Concave lens

17. See figure. What is the name of the lens?



Ans: Convexo-concave (or) Concavo-convex