

NAAHAR PUBLIC SCHOOL CBSE SEMNIOR SECONDARY
ACADEMIC YEAR (2022-2023)
MICRO REVISION-6

STD: X

SUBJECT: PHYSICS

SUBJECT TEACHER :Mrs.GAYATHRI

TOTAL: 30

DATE: 17.11.2022

DUR: 45 MINS

I. ANSWER THE FOLLOWING:

6X1=6

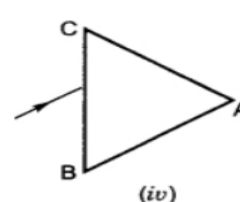
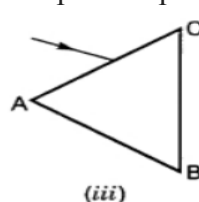
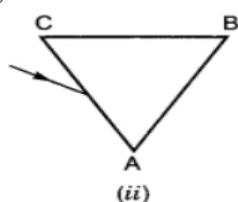
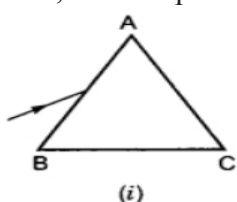
1. A person cannot see distinctly objects kept beyond 2 m. This defect can be corrected by using lens of power

- (a) +0.5 D (b) -0.5 D (c) +0.2 D (d) -0.2 D

2. A student sitting on the last bench can read the letters written on the blackboard but is not able to read / the letters written in his textbook. Which of the following statements is correct?

- (a) The near point of his eyes has receded away.
(b) The near point of his eyes has come closer to him.
(c) The far point of his eyes has come closer to him.
(d) The far point of his eyes has receded away.

3. A prism ABC (with BC as base) is placed in different orientations. A narrow beam of white light is incident on the prism as shown in the Figures given below. In which of the following cases, after dispersion, the third colour from the top corresponds to the colour of the sky?



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

4. Having two eyes facilitates in

A: Increasing the field of view

B : Bringing three-dimensional view

C : Developing the concept of distance/ size

Then the correct option is/are

- (a) A only (b) A and B only
(c) B only (d) A, B and C

5. The black opening between the aqueous humour and the lens is called

- (a) retina (b) iris (c) cornea (d) pupil

(d) The black opening between the aqueous humor and the eye lens is called pupil.

6. Near and far points of a young person normal eye respectively are

- (a) 0 and infinity (b) 0 and 25 cm (c) 25 cm and infinity (d) 25 cm and 150 cm.

II. ANSWER THE FOLLOWING:

2X2=4

7. Define the term power of accommodation. Write the modification in the curvature of the eye lens which enables us to see the nearby objects clearly?

8. State the function of each of the following parts of the human Eye:

- (i) Cornea (ii) Iris (iii) Pupil (iv) Retina

III. ANSWER THE FOLLOWING:

2X3=6

9. Name the three common defects of vision. What are their causes? Name the type of lens used to correct each of them.

10. a. Draw a ray diagram to show the refraction of light through a glass prism. Mark on it

- (a) the incident ray, (b) the emergent ray and (c) the angle of deviation.

b. List the parts of the human eye that control the amount of light entering into it. Explain how they perform this function?

III. ANSWER THE FOLLOWING:

2X5=10

11. a. 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.

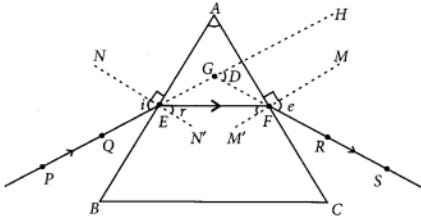
b. An old man cannot see objects closer than 1 m from the eye clearly. Name the defect of vision he is suffering from. How can it be corrected? Draw ray diagram for the (i) defect of vision and also (ii) for its correction.

c. State one function of the crystalline lens in the human eye.

12. Write different parts of eye and explain their functions. Also explain how an image of an object is formed on the retina of eye.

IV.CASE BASED QUESTION: (ANY FOUR)**4X1=4**

13. A prism is a transparent refracting medium bounded by two plane surfaces inclined to each other at a certain angle. The refraction of light through a prism follows the laws of refraction. In the prism, refraction takes place on its refracting surface it means when the light enters the prism and when the light leaves the prism. The refraction through a prism is shown. Here, A is the angle of prism, $\angle i$ is the angle of incidence of the face AB and $\angle e$ is the angle of emergence at other face AC.



The incident ray suffers a deviation or bending through an angle δ due to the refraction through prism. This angle is called angle of deviation as shown in figure.

$$\angle i + \angle e = \angle \delta + \angle A$$

i) The angle between the two refracting surfaces of a prism is called

- | | |
|------------------------|------------------------|
| (a) Angle of prism | (b) angle of incidence |
| (c) Angle of deviation | (d) angle of emergence |

(ii) The angle between the incident ray and the emergent ray is called

- | | |
|------------------------|------------------------|
| (a) Angle of emergence | (b) angle of deviation |
| (c) Angle of incidence | (d) none of these |

(iii) When a ray is refracted through a prism, then

- | | |
|--------------------------------|---|
| (a) $\angle i = \angle \delta$ | (b) $\angle i = \angle e + \angle \delta$ |
| (c) $\angle \delta = \angle e$ | (d) $\angle i > \angle r$ |

(iv) The angle of deviation depends on

- | | |
|-------------------------------|------------------------|
| (a) Refractive index of prism | (b) angle of incidence |
| (c) Both (a) and (b) | (d) none of these |

(v) The rectangular surfaces of a prism are known as

- | | |
|-------------------------|-------------------------|
| (a) Reflecting surfaces | (b) dispersing surfaces |
| (c) Refracting surfaces | (d) none of these. |