St. Lawrence High School

A Jesuit Christian Minority Institution

Term : Pre – Test

Work Sheet – 13

Class – X | Subject – Physical Science | Date – 18.05.20

Chapter – Light | Topic – Convex Lens (rest) & concave Lens

Choose the correct option for the following questions. $1 \times 15 = 15$

1. For image formation in lens, the magnification is more than 1 means –
   a. Object distance is more than image distance
   b. Image distance is more than object distance
   c. Image distance is equal to object distance
   d. None of these

2. If any object is placed perpendicularly on the principal axis at a distance f (i.e. $u = f, \quad f\ being\ the\ focal\ length$) from a convex lens, then the magnification will be –
   a. $m < 1$
   b. $m = 1$
   c. m will be very large
   d. m will be very small

3. If any object is placed perpendicularly on the principal axis at the focus of a convex lens, then the image will be formed –
   a. At focus on the other side of the lens
   b. At infinity on the other side of the lens
   c. At infinity on the same side
   d. At the same position that of object

4. If any object is placed perpendicularly on the principal axis at the focus of a convex lens, then the image will be
   a. Virtual and erect
   b. Virtual and inverted
   c. Real and erect
   d. Real and inverted

5. If any object is placed perpendicularly on the principal axis at the focus of a convex lens, then the image will be
   a. Magnified
   b. Of same size
   c. Diminished
   d. Highly magnified

6. If any object is placed perpendicularly on the principal axis within the focus of a convex lens, then the image will be formed -
   a. On the same side
   b. On the other side
   c. At any of the foci
   d. At infinity

7. If any object is placed perpendicularly on the principal axis within the focus of a convex lens, then the image will be formed -
   a. Within focus on the other side
   b. Within focus on the same side
   c. Beyond focus on the same side
   d. Beyond focus on the other side

8. If any object is placed perpendicularly on the principal axis within the focus of a convex lens, then the image formed will be -
   a. Virtual and erect
   b. Virtual and inverted
   c. Real and erect
   d. Real and inverted

9. If any object is placed perpendicularly on the principal axis within the focus of a convex lens, then the linear magnification will be -
   a. $m = 1$
   b. $m < 1$
   c. $m > 1$
   d. $-1 < m < 1$

10. The image formed by a convex lens of focal length 15cm is magnified in nature. Then the object distance u can be –
    a. Greater than 30cm
    b. Less than 30 cm
    c. Equal to 30 cm
    d. Both a. and c.

11. The image formed by an unknown lens is always diminished in nature for any position of object. The lens is –
    a. A convex lens
    b. A concave lens
    c. Can be both convex or concave
    d. It is never possible

12. If any object is placed perpendicularly on the principal axis of a concave lens, then the linear magnification will be -
    a. Greater than 1 always
    b. Less than 1 always
    c. Equal to 1 always
    d. Depends on the position of the object

13. If any object is placed perpendicularly on the principal axis of a concave lens, then the image will be -
    a. Real and inverted
    b. Real and erect
    c. Virtual and inverted
    d. Virtual and erect

14. The image produced by any concave lens for different positions of the object will be –
    a. On the same side (that of the object) always
    b. On the other side (that of the object) always
    c. Can be on the both sides depending on the object distance
    d. Beyond the focus always.

15. If the lower half of a convex lens is cut of covered by a black paper, then for an object placed at $2f$ distance (perpendicularly on its principal axis)which one of the following will be correct?
    a. The height of the image will be halved
    b. The height of the image will be $\frac{1}{4}th.$
    c. No image will be formed at all
    d. Height will be same but the brightness of the image will be decreased.

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