St. Lawrence High School

A Jesuit Christian Minority Institution

Term : 2nd

Solution of Work Sheet – 6

Class – X          Subject – Physical Science          Date – 23.04.20

Chapter – Light                                        Topic – Reflection

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

1. Any incident ray falls on the concave mirror along the principal axis  -
   a. Will be reflected at an angle 90°
   b. Will be reflected at an angle 45°
   c. Will be reflected back along the same path.
   d. None of these
   Ans: c. Will be reflected back along the same path.

2. The deviation occurs in case of an incident ray that falls on concave mirror through the centre of curvature  is –
   a. 0°
   b. 90°
   c. 180°
   d. 360°
   Ans: c. 180°

3. An incident ray falls normally on a concave mirror making an angle 45° with the principal axis. The angle of incidence in this case is –
   a. 0°
   b. 30°
   c. 45°
   d. 90°
   Ans: c. 45°

4. A Laser torch is placed at the centre of curvature of a concave mirror. The torch emits a monochromatic beam at an angle of 25° with principal axis. If the beam be incident on the mirror, the angle of deviation will be –
   a. 0°
   b. 30°
   c. 90°
   d. 130°
   Ans: d. 130°

5. An incident ray falls on a concave mirror coming parallel to the principal axis. The angular position of the point of incidence w.r.t the centre of curvature is 45°. The angle of deviation in this case will be –
   a. 45°
   b. 90°
   c. 180°
   d. None of these
   Ans: b. 90°

6. If parallel rays are made incident on mirror, then it can be assumed that, the point object emitting those rays, is at –
   a. Infinite distance from the mirror
   b. Centre of curvature of the mirror
   c. Focus of the mirror
   d. Pole of the mirror
   Ans: a. Infinite distance from the mirror

7. If r = radius of curvature and f = focus of a concave mirror, then –
   a. f = 2r
   b. $f = \frac{2}{r}$
   c. $r = \frac{f}{2}$
   d. r = 2f
   Ans: d. r = 2f

8. The focal length of a concave mirror is 16.02 cm. Its radius of curvature will be –
   a. 16.02 cm
   b. 8.01 cm
   c. 32.02 cm
   d. 32.04 cm
   Ans: d. 32.04 cm

9. $f = \frac{r}{2}$ is valid for –
   a. Only convex mirror
   b. Only concave mirror
   c. Both the mirrors
   d. None of these
   Ans: c. Both the mirrors

10. The point where all the perpendicular incident rays (which are also perpendicular to principal axis) meet after reflection, is known as –
    a. Pole
    b. Centre of curvature
    c. Focus
    d. None of these
    Ans: c. Focus

11. For concave mirror, any incident ray coming parallel to principal axis –
    a. Passes through pole after reflection
    b. Passes through focus after reflection
    c. Passes through centre of curvature after reflection
    d. Retraces its path after reflection
    Ans: b. Passes through focus after reflection

12. If a ray is made incident on a convex mirror, parallel to its principal axis, then –
    a. The ray passes through focus after reflection
    b. The ray passes through centre of curvature after reflection

    c. The ray passes through pole after reflection

    d. The ray will appear to diverge from focus after reflection

    Ans: d. The ray will appear to diverge from focus after reflection

13. For any spherical mirror, focal plane is –
    a. The plane imagined at focal point perpendicular to the principal axis
    b. The plane imagined at pole perpendicular to the principal axis
    c. The plane imagined at centre of curvature perpendicular to the principal axis
    d. The plane imagined at focal point parallel to the principal axis

    Ans: a. The plane imagined at focal point perpendicular to the principal axis

14. 'Secondary focal point' is the point lies on the –
    a. Plane imagined at pole
    b. Plane imagined at centre of curvature
    c. Focal plane
    d. None of these

    Ans: c. Focal plane

15. In case of spherical mirrors , 'Paraxial rays' are the rays –
    a. Which are only parallel to the principal axis
    b. Which are not parallel to the principal axis
    c. Which always passes through the focus
    d. Which may be or may not be parallel to principal axis, but always incident near the pole.

    Ans: d. Which may be or may not be parallel to principal axis, but always incident near the pole.

<div align="right">Name of the teacher – Soumitra Maity</div>