

**DELHI PUBLIC SCHOOL, JAMMU**

**DATE: 20<sup>th</sup> August, 2021 ASSIGNMENT – 2**

**CLASS: X**

**Marks: 10**

**SUBJECT: PHYSICS**

**Instructions:**

**Total no of questions: 10 (Each question carry one mark)**

**TOPIC: Light (Reflection & Refraction)**

**Based on your understanding of the E-Lectures-cum PPT's, video links and other e-resources shared with you, answer the following questions**

**Type (I) MCQ's with four options**

1. Ratio of height of image to the height of object is;  
(a) Refractive index (b) magnification (c) critical angle (d) Power of lens
  
2. Mirror which forms erect and magnified image is;  
(a) Convex mirror (b) Plane mirror (c) Concave mirror (d) None of these
  
3. SI unit of power of lens is;  
(a) Watt (b) dioptre (c) Joule per second (d) Kwh

**Type (II) Assertion & Reasoning Type**

**Directions:**

In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason just below it. Of the statement, mark the correct answer as:

- (A) If both assertion and reason are true and reason is the correct explanation of assertion.  
(B) If both assertion and reason are true but reason is not the correct explanation of assertion.  
(C) If assertion is true but reason is false.  
(D) If assertion is false but reason is true.

4. **Assertion:** Large concave mirrors are used to concentrate sunlight to produce heat in solar cookers.

**Reason:** Concave mirror converges the light rays falling on it to a point.

- (a) A (b) B (c) C (d) D

5. **Assertion:** Plane mirror may form real image

**Reason:** Plane mirror forms virtual image, if objects are real.

- (a) A (b) B (c) C (d) D

6. **Assertion:** A ray incident along normal to the mirror retraces its path.  
**Reason:** In reflection angle of incidence is always equal to angle of reflection.

(a) A (b) B (c) C (d) D

**Type (III) Fill in the blank**

7. If radius of curvature of concave mirror is 24cm then its focal length is \_\_\_\_\_  
 (a) 48cm (b) – 48cm (c) 12cm (d) – 12cm
8. The power of concave lens is \_\_\_\_\_ if its focal length is 20cm.  
 (a) 5D (b) – 5D (c) 10D (d) – 10D

**Type (IV) Match the column**

9. Match the statements of column I with statements of column II

| Column I |                                   | Column II |                             |
|----------|-----------------------------------|-----------|-----------------------------|
| A        | Power of Plane mirror is          | p         | $n = \frac{\sin i}{\sin r}$ |
| B        | According to Snell's law          | q         | Convex mirror               |
| C        | Rear view mirror used in vehicles | r         | $R = 2f$                    |
| D        | Relation between f and R is       | s         | Zero                        |

**Type (V) Case Study questions**

10. In the figure given below, image of an object is formed in two mirrors, M1 and M2.



Identify the mirrors and answer the questions given below.

- (i) Which of the mirror is convex?  
 (a) M1 (b) M2 (c) Both M1 and M2 (d) None of these
- (ii) Convex mirror forms;  
 (a) Erect image (b) Virtual image (c) Erect and Virtual image (d) Inverted and Real image

**You-Tube Links:**

1. <https://youtu.be/vysmvom-lvg>
2. <https://youtu.be/skGmQC87Bvg>
3. <https://youtu.be/O5i3qh6aUvw>

**Note:**

1. Due date of submission: 27<sup>th</sup> August 2021
2. Send your answer here:
  - (a) [Satishpawarom@gmail.com](mailto:Satishpawarom@gmail.com) for classes X F, X G and X H
  - (b) [Dpsanil77@gmail.com](mailto:Dpsanil77@gmail.com) for classes X A, X B and X C
  - (c) [manikavermawork@gmail.com](mailto:manikavermawork@gmail.com) for class X E
  - (d) [Mandy.7104@gmail.com](mailto:Mandy.7104@gmail.com) for class X D
  - (e) [Prashant.dpsjmu@gmail.com](mailto:Prashant.dpsjmu@gmail.com) for class X I
  - (f) [Jyotijamwal50@gmail.com](mailto:Jyotijamwal50@gmail.com) for class X J
3. Students must mention their name, class/section and date in their assignments.
4. Your Assignment will be marked for internal/ Term assessments.  
Therefore, it is necessary for you to submit it on time.