

Class 10 Science – Light: Reflection and Refraction – Topic: Reflection of Light and Spherical Mirrors (Topic Test)

ALPHA CLASSES DEOBAND | Session 2026–27 | CBSE Board Pattern

Name: _____ Roll No.: _____ Date: _____

Time: 40 minutes | Maximum Marks: 25

General Instructions: - All questions are compulsory. - Draw neat ray diagrams wherever applicable. - Marks are indicated against each question.

Section A – Very Short Answer (1 mark each)

Q1. State the first law of reflection of light. [1 mark]

Q2. The radius of curvature of a convex mirror is 40 cm. What is its focal length? [1 mark]

Q3. Name the type of mirror used as a rear-view mirror in vehicles. State one reason for this choice. [1 mark]

Q4. Where is the centre of curvature of a concave mirror located — in front of or behind the reflecting surface? [1 mark]

Section B – Short Answer Type (2 marks each)

Q5. Distinguish between regular reflection and irregular (diffuse) reflection. Do both types obey the laws of reflection? [2 marks]

Q6. State any two differences between a concave mirror and a convex mirror. [2 marks]

Q7. A concave mirror has a focal length of 12 cm. Find its radius of curvature. Show the formula used. [2 marks]

Q8. Name two uses of concave mirrors. In each case, explain briefly why a concave mirror is suitable. [2 marks]

Section C – Short Answer Type II (3 marks each)

Q9. State the four ray rules used for drawing ray diagrams in spherical mirrors. [3 marks]

Q10. A ray of light strikes a plane mirror at an angle of incidence of 35° . [3 marks] (a) Find the angle of reflection. (b) What is the angle between the incident ray and the reflected ray? (c) If the mirror is rotated by 10° (keeping the incident ray fixed), by how much does the reflected ray rotate?

Q11. Why is a concave mirror used: [3 marks] (a) by dentists to examine teeth? (b) in solar furnaces to produce high temperatures? Explain the role of the principal focus in each case.

Section D – Long Answer / HOTS (4 marks)

Q12. A car driver uses two types of mirrors as side mirrors — a plane mirror on one side and a convex mirror on the other.

- a. Which mirror gives a wider field of view? [1 mark]
 - b. What type of image does each mirror form (real/virtual, erect/inverted, magnified/diminished)? [1 mark]
 - c. Why are convex mirrors generally preferred over plane mirrors as rear-view mirrors in vehicles? [1 mark]
 - d. If the convex mirror has a radius of curvature of 50 cm, find its focal length. [1 mark]
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All the best!
