



**परमाणु ऊर्जा शिक्षण संस्था**  
**Atomic Energy Education Society**  
**कार्यपत्रक / Worksheet (2025-26)**

कक्षा /Class: VIII विषय/Subject: Science माह/Month: July 2025 अंक/Marks: 40

दिया गया पाठ्यक्रम/Portion covered: Chapter -10 Light: Mirrors and Lenses

द्विद्यार्थी का नाम/Name of the student: \_\_\_\_\_

अनुक्रमांक /Roll No. \_\_\_\_\_ कक्षा/अनुभाग Class /Sec.: \_\_\_\_\_ दिनांक /Date: \_\_\_\_\_

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**Section A**

**Multiple Choice Questions (1 Mark each)**

1. Which type of mirror always forms a virtual, erect, and diminished image?
  - a) Plane mirror
  - b) Concave mirror
  - c) Convex mirror
  - d) None
2. The image formed by a plane mirror is:
  - a) Real and inverted
  - b) Virtual and upright
  - c) Real and upright
  - d) Virtual and inverted
3. A concave mirror forms a real image when the object is placed:
  - a) Between pole and focus
  - b) At focus
  - c) Beyond centre of curvature
  - d) At pole
4. Which lens is used in magnifying glasses?
  - a) Concave lens
  - b) Convex lens
  - c) Plane lens
  - d) Cylindrical lens
5. The focal length of a lens depends on:
  - a) Its curvature
  - b) Its thickness
  - c) Material used
  - d) All of the above
6. Which mirror is used by dentists to view enlarged images of teeth?
  - a) Plane mirror
  - b) Convex mirror

- c) Concave mirror
  - d) None
7. A convex lens is also called:
- a) Diverging lens
  - b) Converging lens
  - c) Reflecting lens
  - d) None
8. Which mirror is used in rear-view mirrors of vehicles?
- a) Plane mirror
  - b) Concave mirror
  - c) Convex mirror
  - d) None
9. Which of the following forms an image that can be projected on a screen?
- a) Plane mirror
  - b) Concave mirror (real image)
  - c) Convex mirror
  - d) Concave lens
10. Which lens is thinner at the centre and thicker at the edges?
- a) Convex lens
  - b) Concave lens
  - c) Plane lens
  - d) Cylindrical lens

### Section B

#### II. Assertion-Reason Questions: ( 4 mark)

Two statements are given for questions 11 to 14: Assertion (A) and Reason (R). Select the correct answer to these questions from the codes (a), (b), (c), and (d) as given below:

- (a) Assertion (A) and Reason (R) both are correct statements and reason is the correct explanation for assertion.
- (b) Assertion (A) and Reason (R) both are correct statements and reason is not the correct explanation for assertion.
- (c) Assertion (A) is a correct statement but the Reason (R) is a wrong statement.
- (d) Assertion (A) is a wrong statement but the Reason (R) is a correct statement.

11. **Assertion (A):** A concave mirror can form a real image.  
**Reason (R):** Real images are always formed behind the mirror.
12. **Assertion (A):** Convex lenses are used to correct farsightedness.  
**Reason (R):** Convex lenses converge light rays.
13. **Assertion (A):** Plane mirrors form virtual images.  
**Reason (R):** Virtual images cannot be captured on a screen.
14. **Assertion (A):** Concave lenses are used in                      spectacles for near-sightedness.  
**Reason (R):** Concave lenses diverge light rays.

### Section C

**III. The following question is case-based. Read the case carefully and answer the questions that follow. (4 Marks)**

The Science Exhibition Surprise

At a school science exhibition, Anaya sets up a booth with different types of mirrors and lenses. She places a candle in front of a concave mirror and notices a bright spot on the wall. In another setup, she uses a convex lens to focus sunlight onto a paper, which starts to smoke. Visitors are amazed as she explains how curved surfaces bend light in different ways.

15. What type of mirror did Anaya use to form a bright spot on the wall?
16. What phenomenon caused the paper to smoke when sunlight passed through the lens?
17. Which lens did Anaya use to focus sunlight?
18. Why does a concave mirror form a bright spot when a candle is placed at its focus?

### Section D

**Short answer type questions: (2mark)**

19. Define focal length. How is it related to the radius of curvature?
20. Why is a convex mirror preferred in vehicles over a plane mirror?
21. Differentiate between real and virtual images with examples.
22. What happens to the image when an object is moved closer to a convex lens?
23. Explain how a concave mirror can be used to light a fire.

### Section E

**Long answer type questions: (3mark)**

24. Draw a ray diagram showing image formation by a concave mirror when the object is placed beyond the centre of curvature.
25. Explain the working of a simple microscope using convex lenses.
26. Compare image formation by concave and convex lenses with diagrams.
27. Describe an activity from the textbook that proves light travels in a straight line.