

1. Light is a form of:
 - a) Heat energy
 - b) Sound energy
 - c) Energy that helps us see
 - d) Magnetic energy

2. Light travels in:
 - a) Curves
 - b) Zig-zag
 - c) Straight line
 - d) Spiral

3. When light bounces back from a surface, it is called:
 - a) Refraction
 - b) Reflection
 - c) Absorption
 - d) Diffusion

4. Which surface reflects light best?
 - a) Rough
 - b) Smooth
 - c) Transparent
 - d) Opaque

5. A mirror is:
 - a) Opaque surface
 - b) Transparent surface
 - c) Shiny surface
 - d) Rough surface

6. A plane mirror forms images that are:
 - a) Smaller
 - b) Larger
 - c) Same size as object
 - d) None

7. In a plane mirror, left appears:
 - a) Left
 - b) Right
 - c) Upside down
 - d) Enlarged

8. Concave mirrors are curved:
 - a) Inward
 - b) Outward
 - c) Flat
 - d) Both inward and outward

9. Which mirror is used in vehicles' side mirrors?

- a) Plane
- b) Concave
- c) Convex
- d) None

10. Convex mirrors show:

- a) Smaller area
- b) Wider area
- c) Same area
- d) No image

11. Concave mirrors can:

- a) Scatter light
- b) Focus light
- c) Bend light outward
- d) Absorb light

12. A lens is:

- a) Opaque
- b) Transparent
- c) Reflective
- d) Absorptive

13. Convex lens is:

- a) Thicker at edges
- b) Thicker in middle
- c) Same thickness
- d) Hollow

14. Concave lens bends light:

- a) Inward
- b) Outward
- c) Both ways
- d) Randomly

15. Which lens is used in magnifying glass?

- a) Concave
- b) Convex
- c) Both
- d) None

16. Lenses can be made of:

- a) Plastic
- b) Glass
- c) Both
- d) Only metal

17. Glasses for short-sighted people use:

- a) Concave lens
- b) Convex lens
- c) Both
- d) None

18. A convex lens is also called:

- a) Diverging lens
- b) Converging lens
- c) Reflecting lens
- d) None

19. Which mirror is used by dentists?

- a) Plane
- b) Concave
- c) Convex
- d) None

20. A convex mirror is curved:

- a) Inward
- b) Outward
- c) Both
- d) None

Assertion–Reason Questions

Options:

- A. Both A and R are true, and R explains A
- B. Both A and R are true, but R is not the correct explanation
- C. A is true, R is false
- D. A is false, R is true

21. **A:** Concave mirrors can focus light.

R: They curve inward.

22. **A:** Convex mirrors show a smaller area.

R: They curve outward.

23. **A:** A lens is opaque.

R: Lenses bend light rays.

24. **A:** Plane mirrors produce laterally inverted images.

R: Left appears right in the image.

25. **A:** Convex lenses bend light outward.

R: They are thicker in the middle.

Case Study 1: Road Safety

On a busy road, convex mirrors are placed at blind turns.

- a) Why are convex mirrors used here?
- b) Do they show a wider or narrower area?
- c) Are the images larger or smaller than real objects?
- d) Is the reflection clear or blurred?

Case Study 2: The Eye Check-up

During an eye check-up, the doctor used a concave mirror and a convex lens.

- a) Why was a concave mirror used?
- b) What is the purpose of the convex lens in the test?
- c) Which property of the convex lens helps in this case?
- d) Is this bending of light reflection or refraction?

