

CHAPTER END TEST

LIGHT

(COVERS PART – I & II)

TIME: 1 HOUR

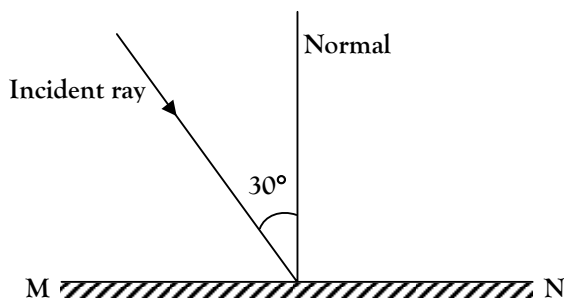
MAXIMUM MARKS: 35

General instructions:

- (i) All the questions are compulsory.
- (ii) The question paper consists of 20 questions. Question number 1-11 are of 1 mark each, question number 12-16 are of 2 marks each, question number 17-19 are of 3 marks each and question number 20 is of 5 marks.
- (iii) Write down the serial number before attempting the question.
- (iv) Use of a calculator is not permitted.

SECTION – A

1. To which type of surfaces are the laws of reflections applicable?
2. Two spherical mirrors are made from a reflecting globe by cutting out circular portions 2 cm and 10 cm in diameter. Which mirror will have a greater radius of curvature?
3. For what type of spherical mirrors can we use the approximation that radius of curvature is double the focal length?
4. A parallel beam of light is focused 10 cm before a concave mirror. What is its radius of curvature?
5. As the object is moved towards a concave mirror from the focus, in which direction does the image move?
6. The given figure shows an incident ray and normal on a plane mirror MN. Draw the reflected ray and find the angle between the incident ray and reflected ray.



7. What is the minimum possible distance between the object and image in a concave mirror?
8. An image formed is of the same size as that the object placed in front of a concave mirror of focal length 20 cm. Find the position of object placed.

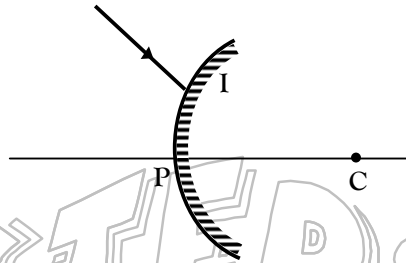
9. The magnification produced by a plane mirror is +1. What does it mean?
10. A concave mirror is placed in water. Will there be any change in its focal length? Give reason.
- 11.



A set of rays before reflection and after reflection are shown above. What is the type of mirror used?

SECTION - B

12. What is difference between focus and principal focus?
13. State and explain any two uses of concave mirrors.
- 14.



The diagram shows a ray of the light incident on a convex mirror. Discuss how will you draw the reflected ray and also complete the given ray diagram.

15. What is the need for sign convention? Write the new Cartesian sign conventions.
16. An object is kept in front of a concave mirror of focal length 15 cm. The image formed is three times the size of the object. Calculate two possible distances of the object from the mirror.

SECTION - C

17. A man standing in front of a special mirror finds his image to have a very small head, a fat body, and legs of normal size. What are the shapes of the parts of the mirror, which are responsible for the formation of such image?
18. You are given three mirrors of equal size—concave, convex and plane. How will you identify them without touching their surfaces?
19. Draw the image formation for a concave mirror when object is placed:
(a) between F and C. (b) between P and F.

SECTION - D

20. A 2 cm tall object is kept 6 cm in front of a concave mirror to obtain a 8 cm tall image behind the mirror. If the object is moved 6 cm away from the mirror, what will be the size of the new image formed?