MCQ Questions For Class 10 Science Ch - 10 Light – Reflection and Refraction

Q1) When a plane mirror is rotated through a certain angle, the reflected ray turns through twice as much and the size of the image:

- (a) is doubled
- (b) is halved
- (c) becomes infinite
- (d) remains same

Correct Answer: Option (d)

Q2) If an object is placed symmetrically between two plane mirrors, inclined at angle of 72

degree, then total no. of images formed:

- (a) 5
- (b) 4
- (c) 2
- (d) infinite

Correct Answer: Option (b)

Q3) Which statement is true for the reflection of light?

- (a) The angle of incidence and reflection are equal.
- (b) The reflected light is less bright than the incident light.
- (c) The sum of angle of incidence and reflection is always greater than 90^0.
- (d) The beams of incident light after reflection diverge at unequal angles.

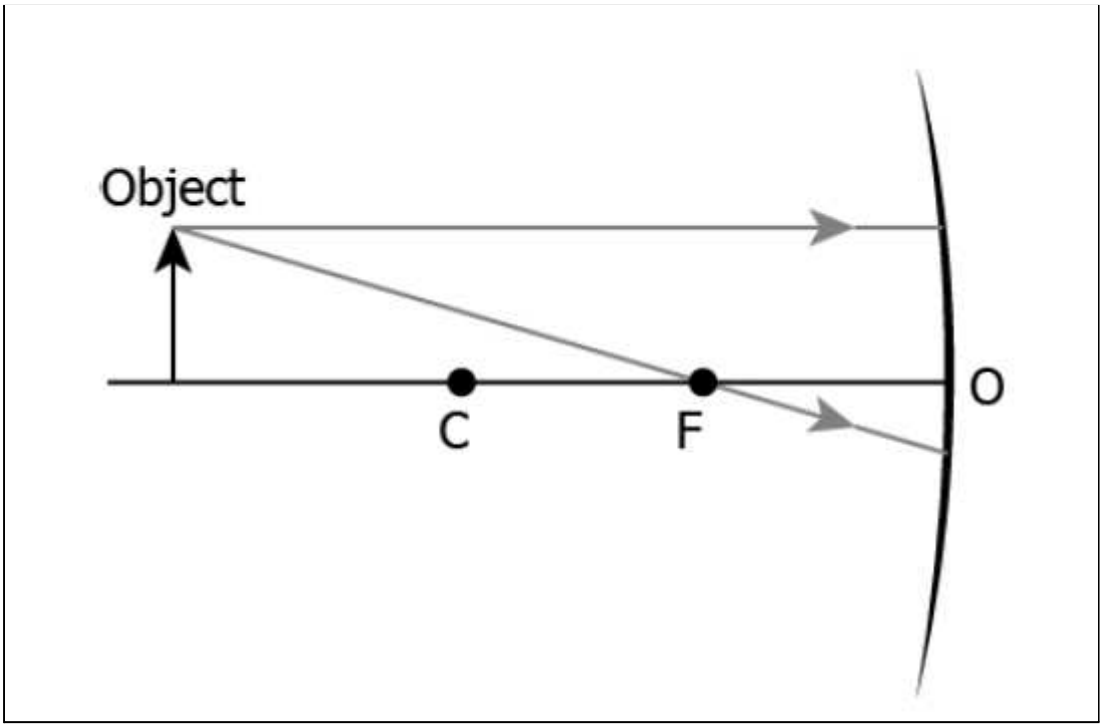
Correct Answer: Option (a)

Q4) Focal length of a plane mirror is

- (a) 0
- (b) infinite
- (c) 25cm
- (d) -25

Correct Answer: Option (b)

Q5) The image shows the path of incident rays to a concave mirror.



Where would the reflected rays meet for the image formation to take place?

- (a) behind the mirror
- (b) between F and O
- (c) between C and F
- (d) beyond C

Correct Answer: Option (c)

Q6) A beam of light incident on a plane mirror forms a real image on reflection. The incident beam is :

- (a) parallel

- (b) convergent
- (c) divergent
- (d) not certain

Correct Answer: Option (b)

Q7) An object is placed at a distance of 40cm in front of a concave mirror of focal length 20cm.

The image produced is:

- (a) virtual and inverted
- (b) real and erect
- (c) real, inverted and of the opposite size as that of the object
- (d) real, inverted and of the same size as that of the object

Correct Answer: Option (d)

Q8) A student conducts an experiment using a convex lens. He places the object at a distance of 60 cm in front of the lens and observes that the image is formed at a distance of 30 cm behind the lens. What is the power of the lens?

- (a) 0.005 dioptre
- (b) 0.05 dioptre
- (c) 5 dioptre
- (d) 50 dioptre

Correct Answer: Option (c)

Q9) An image of an object produced on a screen which is about 36 cm using a convex lens.

The image produced is about 3 times the size of the object. What is the size of the object?

- (a) 12 cm
- (b) 33 cm

- (c) 39 cm
- (d) 108 cm

Correct Answer: Option (a)

Q10) Image formed by a convex spherical mirror is:

- (a) virtual
- (b) real
- (c) enlarged
- (d) inverted

Correct Answer: Option (a)

Q11) A student studies that a convex lens always forms a virtual image irrespective of its position. What causes the convex mirror to always form a virtual image?

- (a) because the reflected ray never intersects
- (b) because the reflected ray converges at a single point
- (c) because the incident ray traces its path back along the principal axis
- (d) because the incident ray of a convex mirror gets absorbed in the mirror

Correct Answer: Option (a)

Q12) A 10 mm long awl pin is placed vertically in front pin is formed at 30cm in front of the

mirror. The focal length of this mirror is:

- (a) -30cm
- (b) -20cm
- (c) -40cm
- (d) -60cm

Correct Answer: Option (b)

Q13) Rahul conducts an experiment using an object of height 10 cm and a concave lens with focal length 20 cm. The object is placed at a distance of 25 cm from the lens. Can the image be formed on a screen?

- (a) yes, as the image formed will be real
- (b) yes, as the image formed will be erect
- (c) no, as the image formed will be virtual
- (d) no, as the image formed will be inverted

Correct Answer: Option (c)

Q14) Magnification produced by a rear view mirror fitted in vehicles:

- (a) is less than one
- (b) is more than one
- (c) is equal to one
- (d) can be more than or less than one depending upon the position of the object in front of it

Correct Answer: Option (a)

Q15) A student conducts an activity using a concave mirror with focal length of 10 cm. He placed the object 15 cm from the mirror. Where is the image likely to form?

- (a) at 6 cm behind the mirror
- (b) at 30 cm behind the mirror
- (c) at 6 cm in front of the mirror
- (d) at 30 cm in front of the mirror

Correct Answer: Option (d)

Q16) The image of an object placed in front of a convex mirror is formed at

- (a) the object itself

- (b) twice the distance of the object in front of the mirror
- (c) half the distance of the object in front of the mirror
- (d) behind the mirror

Correct Answer: Option (d)

Q17) A full length of image of a distant tall building can definitely be seen using:

- (a) a concave mirror
- (b) a convex mirror
- (c) a plane mirror
- (d) both concave as well as plane mirror

Correct Answer: Option (b)

Q18) A student conducts an activity using a flask of height 15 cm and a concave mirror. He finds that the image formed is 45 cm in height. What is the magnification of the image?

- (a) -3 times
- (b) -1/ 3 times
- (c) 1/ 3 times
- (d) 3 times

Correct Answer: Option (d)

Q19) Which of the following can make a parallel beam of light from a point source incident on it?

- (a) concave mirror as well as convex lens
- (b) convex mirror as well as concave lens
- (c) two plane mirrors placed at 90degree to each other
- (d) concave mirror as well as concave lens

Correct Answer: Option (a)

Q20) A student studies that the speed of light in air is 300000 kms/ sec where that of speed in a glass slab is about 197000 kms/ sec. What causes the difference in speed of light in these two media?

- (a) difference in density
- (b) difference in temperature
- (c) difference in amount of light
- (d) difference in direction of wind flow

Correct Answer: Option (a)

1. An object is placed 20 cm in front of a plane mirror. The mirror is moved 2 cm towards the object. The distance between the positions of the original and final images seen in the mirror is:

- (a) 2 cm
- (b) 4 cm
- (c) 10 cm
- (d) 22 cm

Answer: (a) 4 cm

2. A ray of light that strikes a plane mirror PQ at an angle of incidence of 30º, is reflected from the plane mirror and then strikes a second plane mirror QR placed at right angles to the first mirror. The angle of reflection at the second mirror is:

- (a) 30º
- (b) 45º
- (c) 60º
- (d) 90º

Answer: (c) 60º

3. An object is placed at 100 mm in front of a concave mirror which produces an upright image (erect image). The radius of curvature of the mirror is:

- (a) Less than 100 mm
- (b) Between 100 mm and 200 mm
- (c) Exactly 200 mm

- (d) More than 200 mm

Answer: (d) More than 200 mm

4. Which position of the object will produce a magnified virtual image, if a concave mirror of focal length 15 cm is being used?

- (a) 10 cm
- (b) 20 cm
- (c) 30 cm
- (d) 35 cm

Answer: (a) 10 cm

5. A concave mirror produces a magnification of +4. The object is placed:

- (a) At the focus
- (b) Between focus and centre of curvature
- (c) Between focus and pole
- (d) Beyond the centre of curvature

Answer: (c) Between focus and pole

6. Two big mirrors A and B are fitted side by side on a wall. A man is standing at such a distance from the wall that he can see the erect image of his face in both the mirrors. When the man starts walking towards the mirrors, he finds that the size of his face in mirror A goes on increasing but that in mirror B remains the same:

- (a) Mirror A is concave and mirror B is convex
- (b) Mirror A is plane and mirror B is concave
- (c) Mirror A is concave and mirror B is plane
- (d) Mirror A is convex and mirror B is concave

Answer: (c) Mirror A is concave and mirror B is plane

7. A ray of light is travelling in a direction perpendicular to the boundary of a parallel glass slab. The ray of light:

- (a) Is refracted towards the normal
- (b) Is refracted away from the normal
- (c) Is reflected along the same path
- (d) Does not get refracted

Answer: (d) Does not get refracted

8. A ray of light passes from a medium X to another medium Y. No refraction of light occurs if the ray of light hits the boundary of medium Y at an angle of:

- (a) 120°
- (b) 90°
- (c) 45°
- (d) 0°

Answer: (b) 90°

9. A lens of focal length 12 cm forms an erect image, three times the size of the object. The distance between the object and image is:

- (a) 8 cm
- (b) 16 cm
- (c) 24 cm
- (d) 36 cm

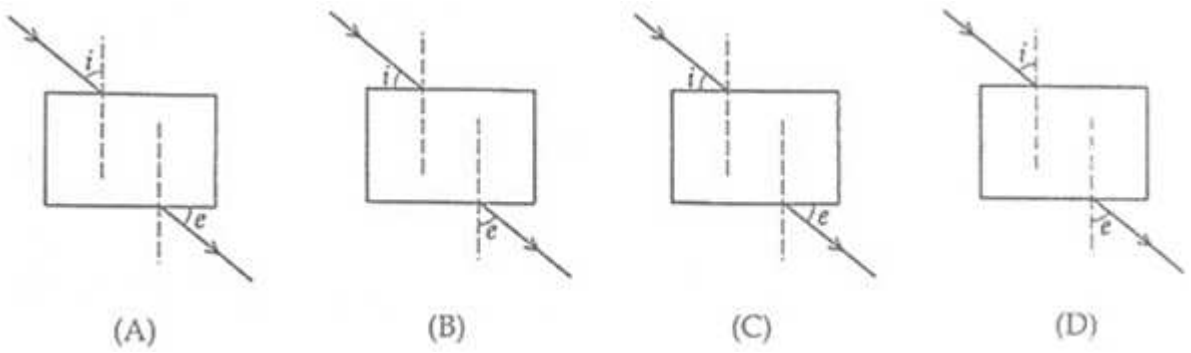
Answer: (a) 8 cm

10. If an object is placed 21 cm from a converging lens, the image formed is slightly smaller than the object. If the object is placed at a distance of 19 cm from the lens, the image formed is slightly larger than the object. The approximate focal length of the lens is:

- (a) 20 cm
- (b) 18 cm
- (c) 10 cm
- (d) 5 cm

Answer: (c) 10 cm

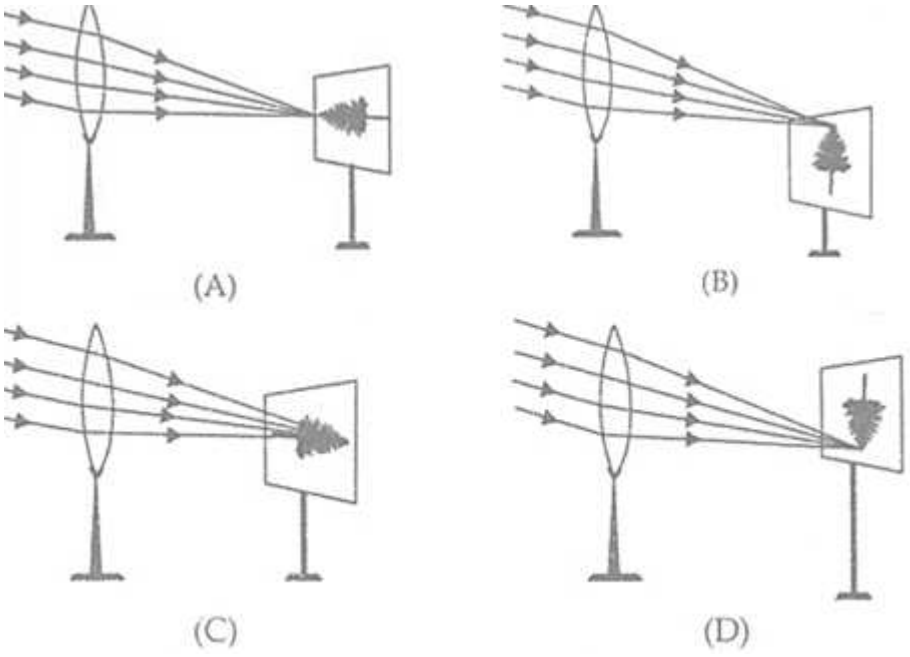
11. A student does the experiment on tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. He can get a correct measure of the angle of incidence and the angle of emergence by following the labelling indicated in figure:



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

Answer: (d) D

12. While performing an experiment on determination of focal length of a convex lens, four students obtained the image of the same distant tree on the screen as follows:



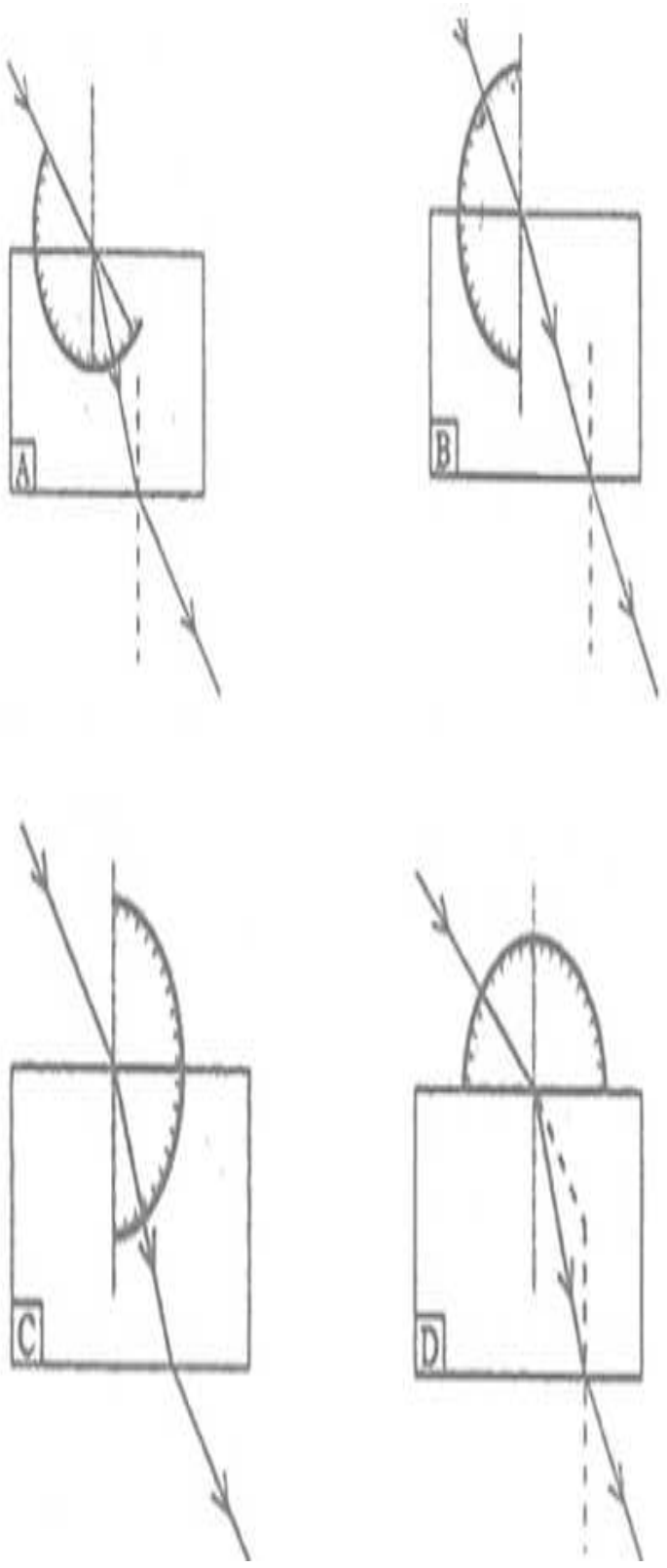
Which diagram shows the formation of image correctly?

- (a) A
- (b) B

- (c) C
- (d) D

Answer: (d) D

13. A student traces the path of a ray of light passing through a rectangular slab.



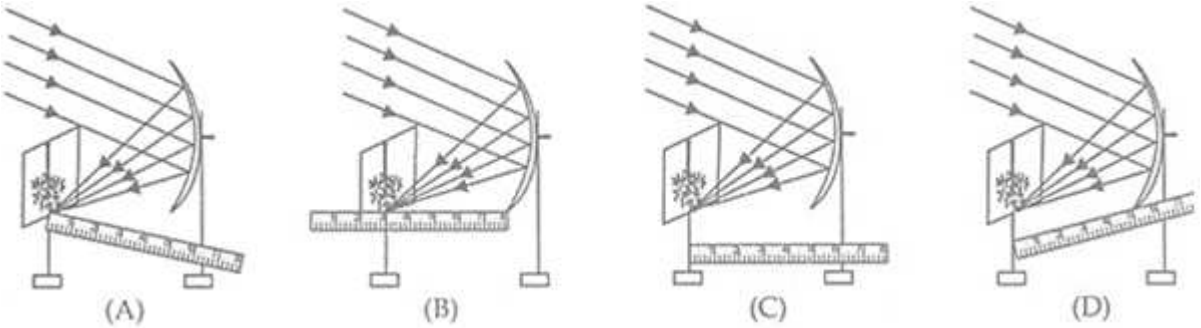
For measuring the angle of incidence, he must position the protractor in the manner shown in the figure:

- (a) A

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

Answer: (d) D

14. Four students A, B, C and D performed the experiment to determine the focal length of a concave mirror by obtaining the image of a distant tree on a screen. They measured the distances between the screen and the mirror as shown in the diagrams given below:

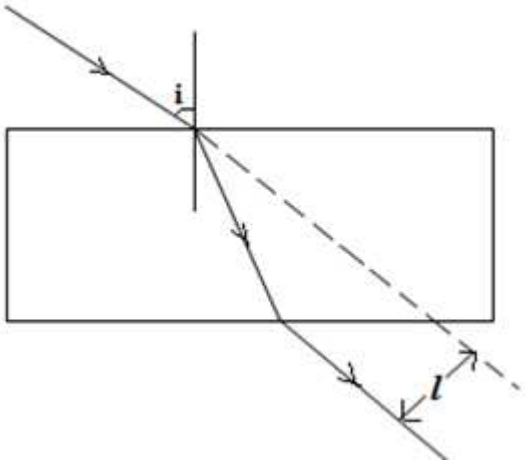


The correct way to measure accurate focal length of the mirror is:

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

Answer: (c) C

15. A student traces the path of a ray of light passing through a rectangular slab for three different values of angle of incidence ($\angle i$) namely 30^{o}, 45^{o} and 60^{o}. He extends the direction of incident ray by a dotted line and measures the perpendicular distance 'l' between the extended incident ray and the emergent ray.



He will observe that:

- (a) ‘l’ keeps on increasing with increase in angle of incidence
- (b) ‘l’ keeps on decreasing with increase in angle of incidence
- (c) ‘l’ remains the same for all three angles of incidence
- (d) ‘l’ is the maximum for ∠i = 45° and is less than this value for ∠i = 30° and ∠i = 60°.

Answer: (a) ‘l’ keeps on increasing with increase in angle of incidence

Light Reflection and Refraction Class 10 MCQ

Question 1. An object is placed at a distance of 0.25 m
in front of a plane mirror. The distance between the object and image will be
(a) 0.25 m
(b) 1.0 m
(c) 0.5 m
(d) 0.125 m

Question 2. The angle of incidence for a ray of light having zero reflection angle is
(a) 0
(b) 30°
(c) 45°
(d) 90°

MCQ Questions On Light Class 10

Question 3. For a real object, which of the following can produce a real image?
(a) Plane mirror
(b) Concave mirror
(c) Concave lens
(d) Convex mirror

Question 4. Which of the following mirror is used by a dentist to examine a small cavity?
(a) Convex mirror
(b) Plane mirror
(c) Concave mirror
(d) Combination of convex and concave mirror

Question 5. An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is
(a) – 30 cm
(b) 30 cm
(c) – 15 cm
(d) +15 cm

Question 6. An object at a distance of + 15 cm is slowly moved towards the pole of a convex mirror. The image will get
(a) shortened and real
(b) enlarged and real
(c) enlarge and virtual
(d) diminished and virtual

Question 7. A concave mirror of radius 30 cm is placed in water. It's focal length in air and water differ by

(a) 15
(b) 20
(c) 30
(d) 0

focal length of any mirror depend on medium

Reflection And Refraction Questions And s Question 8. A concave mirror of focal length 20 cm forms an image having twice the size of object. For the virtual position of object, the position of object will be at
(a) 25 cm
(b) 40 cm
(c) 10 cm
(d) At infinity

Multiple Choice Questions On Light Reflection And Refraction Question 9. The image formed by concave mirror is real, inverted and of the same size as that of the object. The position of object should be
(a) at the focus
(b) at the centre of curvature
(c) between focus and centre of curvature
(d) beyond centre of curvature

Question 10. The nature of the image formed by concave mirror when the object is placed between the focus (F) and centre of curvature (C) of the mirror observed by us is
(a) real, inverted and diminished
(b) virtual, erect and smaller in size
(c) real, inverted and enlarged
(d) virtual, upright and enlarged

Question 11. The nature of image formed by a convex mirror when the object distance from the mirror is less than the distance between pole and focal point (F) of the mirror would be
(a) real, inverted and diminished in size
(b) real, inverted and enlarged in size
(c) virtual, upright and diminished in size
(d) virtual, upright and enlarged in size

Question 12. If a man's face is 25 cm in front of concave shaving mirror producing erect image 1.5 times the size of face, focal length of the mirror would be
(a) 75 cm
(b) 25 cm
(c) 15 cm
(d) 60 cm

Question 13. As light travels from a rarer to a denser medium it will have
(a) increased velocity
(b) decreased velocity
(c) decreased wavelength
(d) both (b) and (c)

Question 14. The angle of incidence i and refraction r are equal in a transparent slab when the value of i is
(a) 0°
(b) 45°
(c) 90°
(d) depend on the material of the slab

Question 15. The refractive index of transparent medium is greater than one because
(a) Speed of light in vacuum < speed of light in transparent medium

(b) Speed of light in vacuum > speed of light in tansparent medium
(c) Speed flight in vacuum = speed of light in tansparent medium
(d) Frequency of light wave changes when it moves from rarer to denser medium

Question 16. The refractive index of water is 1.33. The speed of light in water will be
(a) 1.33×10^8 m/s
(b) 3×10^8 m/s
(c) 2.26×10^8 m/s
(d) 2.66×10^8 m/s

Question 17. You are given three media A, B and C of refractive index 1.33, 1.65 and 1.46. The medium in which the light will travel fastest is
(a) A
(b) B
(c) C
(d) equal in all three media

MCQ Of Light Reflection And Refraction Class 10 Question 18. Light from the Sun falling on a convex lens will converge at a point called
(a) centre of curvature
(b) focus
(c) radius of curvature
(d) optical centre

Light MCQ Class 10 Question 19. Large number of thin stripes of black paint are made on the surface of a convex lens of focal length 20 cm to catch the image of a white horse. The image will be
(a) a zebra of black stripes
(b) a horse of black stripes
(c) a horse of less brightness
(d) a zebra of less brightness

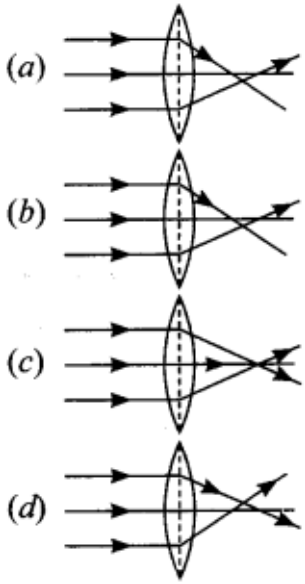
Light Reflection And Refraction Class 10 Solutions Question 20. A divergent lens will produce
(a) always real image
(b) always virtual image
(c) both real and virtual image
(d) none of these

MCQ Of Light Class 10 Question 21. When object moves closer to convex lens, the image formed by it shift
(a) away from the lens
(b) towards the lens
(c) first towards and then away from the lens
(d) first away and then towards the lens

22. When object moves closer to a concave lens the image by it shift
(a) away from the lens on the same side of object
(b) toward the lens
(c) away from the lens on the other side of lens
(d) first towards and then away from the lens

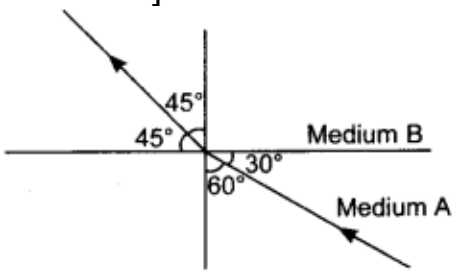
23. A magnified real image is formed by a convex lens when the object is at
(a) F
(b) between F and 2F
(c) 2F
(d) only (a) and (b) both

24. The distance between the potical centre and point of convergence is called focal length in which of the following cases?



25. A10 mm long awl pin is placed vertically in front of a concave mirror. A 5 mm long image of the awl pin is formed at 30 cm in front of the mirror. The focal length of this mirror is [NCERT Exemplar Problems]
(a) – 30 cm
(b) – 20 cm
(c) – 40 cm
(d) – 60 cm

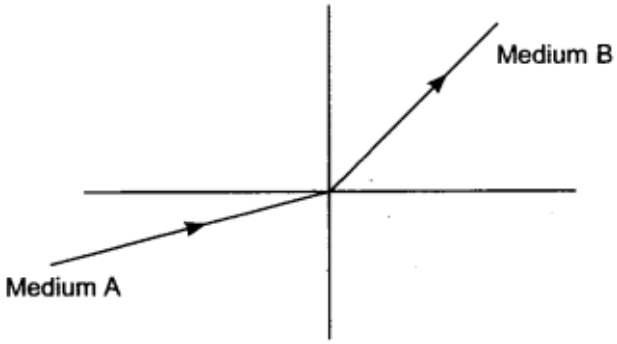
26. Figure shows a ray of light as it travels from medium A to medium B. Refractive index of the medium B relative to medium A is [NCERT Exemplar Problems]



(a) $\frac{\sqrt{3}}{\sqrt{2}}$ (b) $\frac{\sqrt{2}}{\sqrt{3}}$

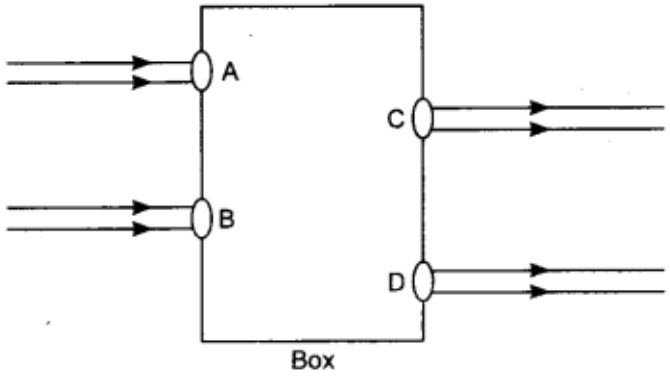
(c) $\frac{1}{\sqrt{2}}$ (d) $\sqrt{2}$

27. A light ray enters from medium A to medium B as shown in figure. The refractive index of medium B relative to A will be [NCERT Exemplar Problems]



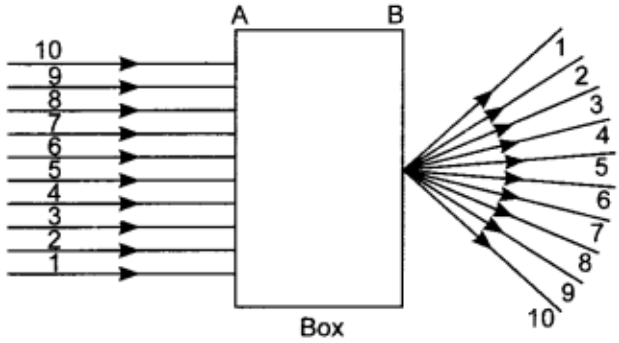
(a) greater than unity
(b) less than unity
(c) equal to unity
(d) zero

28. Beams of light are incident through the holes A and B and emerge out of box through the holes C and D respectively as shown in the figure. Which of the following could be inside the box? [NCERT Exemplar Problems]



(a) A rectangular glass slab
(b) A convex lens .
(c) A concave lens
(d) A prism

29. A beam of light is incident through the holes on side A and emerges out of the hole on the other face of the box as shown in the figure. Which of the following could be inside the box? [NCERT Exemplar Problems]
(a) Concave lens
(b) Rectangular glass slab
(c) Prism
(d) Convex lens



30. Which of the following statements is/are true? [NCERT Exemplar Problems]
(a) A convex lens has 4 dioptre power having a focal length 0.25 m
(b) A convex lens has -4 dioptre power having a focal length 0.25 m
(c) A concave lens has 4 dioptre power having a focal length 0.25 m
(d) A concave lens has – 4 dioptre having a focal 0.25 m

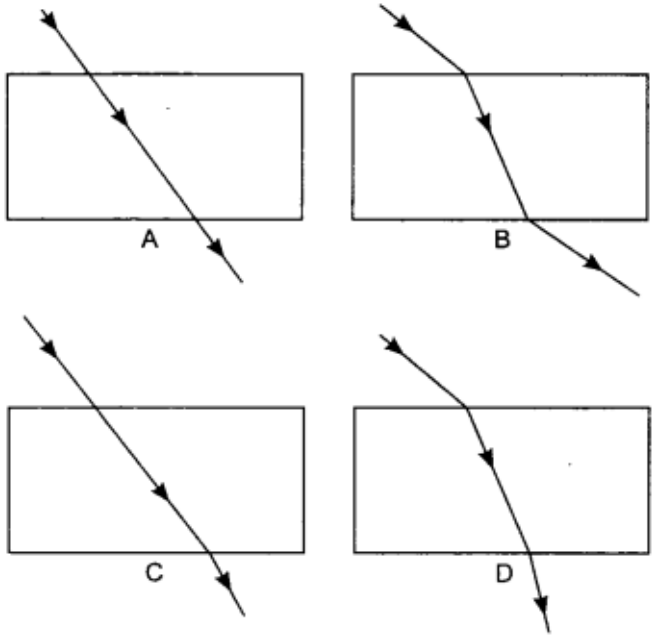
31. Magnification produced by a rear view mirror fitted in vehicles [NCERT Exemplar Problems]
(a) is less than one
(b) is more than one
(c) is equal to one
(d) can be more than or less than one depending upon the position of the object in front of it.

32. A full length image of a distant tall building can definitely be seen by using [NCERT Exemplar Problems]
(a) a concave mirror
(b) a convex mirror
(c) a plane mirror
(d) both concave as well as plane mirror

33. In torches, search lights and headlights of vehicles the bulb is placed [NCERT Exemplar Problems]
(a) between the pole and the focus of the reflector
(b) very near to the focus of the reflector
(c) between the focus and centre of curvature of the reflector
(d) at the centre of curvature of the reflector

34. The laws of reflection hold good for [NCERT Exemplar Problems]
(a) plane mirror only
(b) concave mirror only
(c) convex mirror only
(d) all mirrors irrespective of their shape

35. The path of a ray of light coming from air passing through a rectangular glass slab traced by four students are shown as A, B, C and D in figure. Which one of them is correct? [NCERT Exemplar Problems]



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

36. In which of the following, the image of an object placed at infinity will be highly diminished and point sized? [NCERT Exemplar Problems]
(a) Concave mirror only
(b) Convex mirror only

(c) Convex lens only
(d) Concave mirror, convex mirror, concave lens and convex lens.

37. When light falls on a smooth polished surface, most of it
(a) is reflected in the same direction
(b) is reflected in different directions
(c) is scattered
(d) is refracted into the second medium

38. Image formed by reflection from a plane mirror is
(a) real and inverted
(b) virtual and erect
(c) real and erect
(d) virtual and inverted

39. If an incident ray passes through the focus, the reflected ray will
(a) pass through the pole
(b) be parallel to the principal axis
(c) retrace its path
(d) pass through the centre of curvature

40. Magnifying power of a concave lens is
(a) always > 1
(b) always < 1
(c) always = 1
(d) can have any value

41. The image formed by a convex lens can be
(a) virtual and magnified
(b) virtual and diminished
(c) virtual and of same size
(d) virtual image is not formed

42. A point object is placed at a distance of 20 cm from a convex mirror of focal length 20 cm. The image will form at:
(a) at infinity
(b) at focus
(c) at the pole
(d) behind the mirror

43. Focal length of a concave mirror is
(a) negative
(b) positive
(c) depends on the position of object
(d) depends on the position of image

44. If the power of a lens is – 2 D, what is its focal length?
(a) +50 cm
(b) -100 cm
(c) -50 cm
(d) +100 cm

45. A spherical mirror and a spherical lens each have a focal length of -10 cm. The mirror and the lens are likely to be
(a) both concave
(b) both convex
(c) the mirror is concave and the lens is convex
(d) the mirror is convex and the lens is concave

46. If the magnification produced by a lens has a negative value, the image will be
(a) virtual and inverted
(b) virtual and erect
(c) real and erect
(d) real and inverted

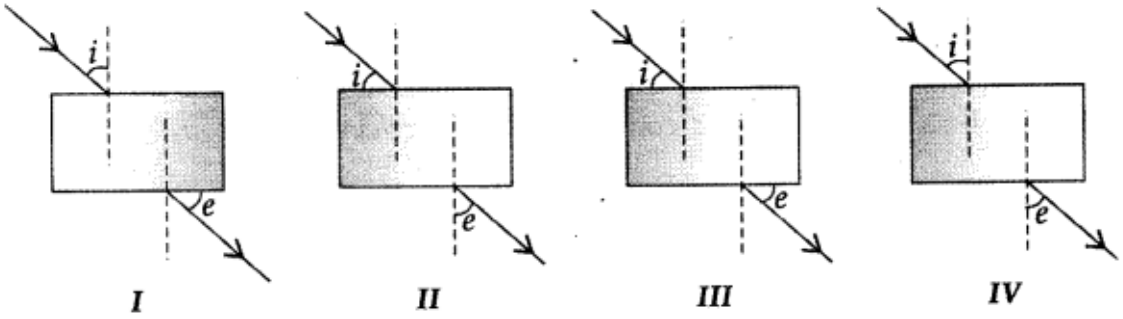
47. When the object is placed between f and 2f of a convex lens, the image formed is
(a) at f
(b) at 2f
(c) beyond 2f
(d) between O and f

48. Which mirroji can produce a virtual, erect and magnified ifhage of an object?
(a) Concave mirror
(b) Convex mirror
(c) Plane mirror
(d) Both concave and convex mirrors

49. If the image is formed in front of the mirror, then the image distance will be
(a) positive or negative depending on the size of the object
(b) neither positive nor negative
(c) positive
(d) negative

50. A ray of light is travelling from a rarer medium to a denser medium. While entering the denser medium at the point of incidence, it
(a) goes straight into the second medium
(b) bends towards the normal
(c) bends away from the normal
(d) does not enter at all

51. A student does the experiment on tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. He can get a correct measure of the angle of incidence and the angle of emergence by following the labelling indicated in figure:



(a) I
(b) II
(c) III
(d) IV

Direction (Q52 to Q56): The questions given below consist of an assertion and the reason. Use the following key to choose the appropriate .
(a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
(c) Assertion is true but the Reason is false.
(d) The statement of the Assertion is false but the Reason is true.
52. Assertion: Incident light is reflected in only one direction from a smooth surface.
Reason: Since the angle of incidence and the angle of reflection are same, a beam of parallel rays of light falling on a smooth surface is reflected as a beam of parallel light rays in one direction only.

53. Assertion: The word AMBULANCE on the hospital vans is written in the form of its mirror as
Reason: The image formed in a plane mirror is same size of the oblect.


54. Assertion: Cannot see the distant object clearly.
Reason: The far point of an eye suffering j, from myopia is less than infinity.

55. Assertion: Pupil is black in colour.
Reason: Pupil is black in colour as no light is reflected in it.

56. Assertion: The rainbow is a man made spectrum of sunlight in the sky. Reason: The rainbow is formed in the sky when the sun is shining and it is raining at the same time.

57. _____ mirror is used as a security mirror in shops and on roads at sharp bends and concealed entrances.

58. The refractive index of a transparent medium is the ratio of the speed of light in _____ to that in the _____ .

59. If the magnification has a minus sign, then the image is _____ and _____ .

60. The focal length of a lens is the distance between _____ and _____ of the lens.

61. The focal length of a concave lens is considered to be _____ .

62. In order to calculate the power of a lens, we need its focal length in _____ .

63. Angle of refraction cannot exceed 90°. [True/False]

64. When incident angle i satisfies n = \(\frac{1}{\sin i}\), the refracted light will pass along the surface. [True/False]

65. A person standing in front of a mirror finds his image larger than himself. This shows that mirror is convex in nature. [True/False]

66. Lateral displacement increases with the thickness of the given slab. [True/False]

67. Lateral displacement is directly proportional to thickness of the glass slab. [True/False]

68. Nature of image formed by mirror gives an ideal about nature of mirror. [True/False]

69. A convex lens ($n_g = 3/2$) when placed in water ($n_w = 4/3$) has increased focal length [True/False]

70. A convex and a concave lens of equal focal length behaves as a regular glass slab receiving light normally. [True/False]

71. Concave lens and convex mirror diverge the rays which fall parallel to the principal axis. [True/False]

72. The power of a concave lens is positive. [True/False]

Direction: Match Column I with Column II.
73.

Column I	Column II
(i) Ray through centre of curvature	(A) Reflected parallel to principal axis
(ii) Ray through focus	(B) Converge at focus
(iii) Rays from infinite distance	(C) Emerge through focus
(iv) Refracted rays to infinity	(D) Retracing in mirrors

74. What is light?

75. Write any one observation from everyday life which show us that light travels in a straight line.

76. What is a ray?

77. What is beam?

78. Explain why a ray of light passing through the centre of curvature of a concave mirror, gets reflected along the same path.

79. Is light a ray or a wave?

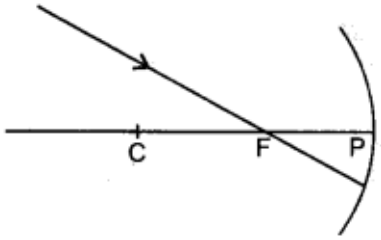
80. What are the characters associated with light as a wave?

81. What is Spherical mirror?

82. What is the relation connecting focal length and radius of a spherical mirror?

83. Can any spherical surface act as a reflector?

84. Redraw the diagram given below in your book and show the direction of the light ray after reflection from the mirror.



85. For what position of object, a concave mirror forms a real image equal to size of object?

86. A concave mirror forms a sharp image of a distant tree. What name is given to the distance between the concave mirror and screen on which sharp image is formed?

87. In what condition, the image formed by a concave mirror is virtual?

88. Specified the size of image formed by a concave mirror when m > 1.

89. Name the mirror that can be used to check theft in shops.

90. What is the position of the object placed on the side of reflecting surface of a concave mirror of focal length 15 cm if the image is formed at the distance of 30 cm from the mirror?

91. Which mirror, concave or convex always converges the light rays?

92. For what position of the object does a concave mirror forms a real image which is highly enlarged?

93. When object is placed at centre of centre of curvature of concave mirror, where is the image formed?

94. What focal length can be assigned to a plane mirror?

95. Size of the image formed on a concave mirror is highly diminished, state the position of object and image.

Fill in the Blanks

1. Light shows the phenomena of reflection, refraction and ……. .
2. The speed of light in vacuum is ……. .
3. Power of' a lens is the ……. of its focal length.
4. The SI unit of power is ……. .
5. A ……. lens will always give a virtual, erect and diminished image, irrespective of the position of the object.
6. A positive sign in the value of magnification indicates that the image is ……. .
7. A ……. mirror is used as a head mirror by the doctors to concentrate light on the body parts to be examined.
8. No matter how far you stand from a spherical mirror, your image appears erect. The mirror may be ……. .

Class X assertion and reasons for light

Assertion and Reason Questions for Class 10 Science Light.

Class 10 Light: Reflection and Refraction Assertion and Reason

Questions Following questions consist of two statements - Assertion (A) and Reason (R) . Answer these questions selecting the appropriate option given below:

(i) Both A and R is true and R is the correct explanation of A.

(ii) Both A and R is true and R is not the correct explanation of A.

(iii) A is true but R is false.

(iv) A is false but R is true.

1. (A) If the rays are diverging after emerging from a lens, the lens should be concave.

(R) The convex lens can give diverging rays.

2. (A) Light travels faster in water than in air.

(R) Water is denser than air

3. (A) Higher the refractive index of a medium, lesser is the velocity of light in it.

(R) Refractive index is inversly proportional to the velocity.

4. (A) Mirror formula cannot be applied to a plane mirror.

(R) A plane mirror is a spherical mirror of a finite focal length.

5. (A) A convex mirror is used as driver mirror.

(R) Convex mirror field of view is large and image formed are virtual erect and diminished.

6. (A) It is impossible to see a virtual image from naked eyes.

(R) The rays do not actually emanate from a virtual image.

7. (A) A ray incident along the normal retraces its path.

(R) In reflection, angle of incidence is equal to angle of reflection.

8. (A) If an image formed is upside down then it is called inverted.

(R) If the image formed is bigger than object then it is called enlarged.

9. (A) Large concave mirrors are used concentrate sunlight to produce heat in solar cooker.

(R) Concave mirror converges the light rays falling on it to a point.

10. (A) An object is placed at an distance of X from a concave mirror focal length F, its image will formed at infinity

Class X assertion and reasons for light

(R) The distance of image in convex mirror can never be infinity

11. (A) Refractive index has no unit.

(R) It is a ratio of two similar quantities.

12. (A) the incident rays, reflected rays, and the normal all lie in the same plane.

(R) Angle of incidence = angle of reflection.

13. (A) Unit of power of lens is m^{-1}.

(R) Power of a lens is reciprocal of its focal length in m.

14. (A) Plane mirror may form real image.

(R) Plane mirror forms virtual image if object is real.

15. (A) Light travels faster in glass that in air.

(R) Glass is denser than air.

16. (A) Refractive index of glass with respect to air is different for red light and violet light.

(R) Refractive index depends on wavelength of light.

17. (A) the word AMBULANCE on the vans is written in the form of its mirror image.

(R) The image formed in the plane mirror is of same size as of object.

18. (A) Power of a concave lens is negative.

(R) A concave lens has a virtual focus.

19. (A) the centre of curvature is not a part of mirror.

(R) The reflecting surface of a spherical mirror is a part of a sphere.

20. (A) Virtual images are always erect in nature.

(R) Virtual images are formed by diverging devices only.