

Class-VII (CHAPTER-15) LIGHT

Questions

- Fill in the blanks:
 - An image that cannot be obtained on a screen is called -----.
 - Image formed by a concave ----- is always virtual and smaller in size.
 - An image formed by a ----- mirror is always of the same size as that of the object.
 - An image which can be obtained on a screen is called a ----- image.
 - An image formed by a concave ----- cannot be obtained on a screen.
 - Mark "T" if the statement is true and "F" if it is false.
 - We can obtain an enlarged and erect image by a convex mirror. (T/F)
 - A concave lens always forms a real image. (T/F)
 - We can obtain a real, enlarged and inverted image by a concave mirror. (T/F)
 - A real image cannot be obtained on screen. (T/F)
 - A concave mirror always forms a real image. (T/F)
 - Match the items given in Column I with one or more item of Column II.

(a) A plane mirror	(i) used as magnifying glass.
(b) A convex mirror	(ii) can form image of objects spread over large area.
(c) A convex lens	(iii) used by dentist to see enlarged image of teeth.
(d) A concave mirror	(iv) the image is always inverted and magnified.
(e) A concave lens	(v) the image is erect and of the same size than object.
	(vi) the image is erect and smaller in size than the object.
 - State the characteristic of the image formed by a plane mirror.
 - Find out the letters of English alphabet or any other language known to you in which the image formed in plane mirror appears exactly like the letter itself. Discuss your findings.
 - What is a virtual image? Give one situation where a virtual image is formed.
 - State the differences between convex and a concave lens.
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8. Give one use of a concave and a convex mirror.
9. Which type of lens forms always a real image?
10. Which type of lens forms always a virtual image?

Choose the correct option in questions 11-13.

11. A virtual image larger than the object can be produced by a
 - (i) Concave lens
 - (ii) Concave mirror
 - (iii) Convex lens
 - (iv) Plane mirror
 12. David is observing his image in a plane mirror. The distance between the mirror and his image is 4 m. if he moves 1 m towards the mirror, then the distance between David and his image will be
 - (i) 3 m
 - (ii) 5 m
 - (iii) 6 m
 - (iv) 8 m
 13. The rear view mirror of a car is a plane mirror. A driver is reversing his car at a speed of 2 m/s. The driver sees in his rear view mirror the image of a truck parked behind the car. The speed at which the image of the truck appears to approach the driver will be
 - (i) 1 m/s
 - (ii) 2 m/s
 - (iii) 4 m/s
 - (iv) 8 m/s.
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NCERT Solutions

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Questions

1. Fill in the blanks:
 - (a) An image that cannot be obtained on a screen is called **virtual image**.
 - (b) Image formed by a concave **mirror** is always virtual and smaller in size.
 - (c) An image formed by a **plane** mirror is always of the same size as that of the object.
 - (d) An image which can be obtained on a screen is called a **real** image.
 - (e) An image formed by a concave **lens** cannot be obtained on a screen.
2.
 - (a) F
 - (b) F
 - (c) T
 - (d) F
 - (e) F
3.
 - (a) (v)
 - (b) (ii)
 - (c) (i)
 - (d) (iii)
 - (e) (vi)
4. Characteristics of image formed by plane mirror are:
 - (a) Image distance is equal to object distance.
 - (b) image height is equal to object height.
 - (c) Image is virtual and erect
5. A, H, O, T, U, V, W, X, Y.
6. The image that cannot be formed on a screen is called virtual image. Plane mirror always form virtual image.
7. Difference between convex lens and concave lens:

Concex image		Concave image	
(i)	Thick at middle, thin at edge.	(i)	Thin at middle, thick at edge.
(ii)	Can form real image.	(ii)	Cannot form real iamge.

8. Concave mirror – used by dentist to see teeth.
Convex mirror – used in vehicles as rear view mirror.
9. Concave mirror.
10. Concave lens.
11. (ii) concave mirror.
12. (iii) 6 cm.
13. (iii) 4 m/s.