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DPP – 1 (Geometrical Optics & Dispersion)

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Q 1. When reflection from a plane mirror incident ray, normal & reflected ray all are
(a) In same plane (b) mutuallu perpendicular
(c) Parallel (d) None of the above

Q 2. A rays is incident at an angle 38º with the normal on a mirror. The angle between normal and reflected ray is
(a) 38º (b) 52º (c) 90º (d) 76º

Q 3. The image of a real object formed by a plane mirror is:
(a) Erect, real and of equal size
(b) Erect, virtual and of equal size
(c) Inverted, real and of equal size
(d) Inverted, virtual and of equal size

Q 4. Mark the correct options:
(a) If the incident rays are converging, we have a real object.
(b) If the final rays are converging, we have a real image.
(c) The image of a virtual object is called a virtual image.
(d) If the image is virtual, the corresponding object is called a virtual object.

Q 5. A point source of light is placed in front of a plane mirror:
(a) All the reflected rays meet at a point when produced backward.
(b) Only the reflected rays close to the normal meet at a point when produced backward.
(c) Only the reflected rays making a small angle with the mirror, meet at a point when produced backward.
(d) Light of different colours make different images.

Q 6. Which of the following is not the case with image formed by a plane mirror:
(a) It is erect
(b) It is virtual
(c) It is diminished
(d) It is at the same distance as the object

Q 7. A small object is 10 cm in front of a plane mirror. A man stands 30 cm from the mirror, behind the object and looks at the object's image. He should focus his eyes to see the image at a distance:
(a) 25 cm (b) 35 cm (c) 45 cm (d) 40 cm

Q 8. An object is initially at a distance of 50 cm from a plane mirror. If the mirror approaches the object at a speed of 5 cm/s. Then after 5 s the distance between the object and its image will be :
(a) 60 cm (b) 140 cm (c) 50 cm (d) 25 cm

Q 9. A plane mirror is approaching you at 10 cm per second. You can see your image in it. At what speed will your image approach you:
(a) 10 cm/s (b) 5 cm/s (c) 20 cm/s (d) 15 cm/s

Q 10. A car is moving towards a plane mirror at a speed of 30 m/s. Then the relative speed of its image with respect to the car will be-
(a) 30 m/s (b) 60 m/s (c) 15 m/s (d) 45 m/s

Q 11. Calculate the velocity of image with respect to observer if an observer is walking away from the plane mirror with 6 m/s:
(a) 6 m/s (b) -6 m/s (c) 12 m/s (d) 3m/s

Q 12. A light ray is incident on a plane mirror at angle 30^0. If mirror is rotated by 10^0 then reflected ray is rotated by angle
(a) 30^0 (b) 10^0 (c) 20^0 (d) 60^0

Q 13. A light ray is incident on a horizontal plane mirror at an angle of 30^o with horizontal. At what angle with horizontal must a plane mirror be placed in its path so that it becomes vertically upwards after reflection?
(a) 30^0 (b) 10^0 (c) 20^0 (d) 60^0

Answer Key

Q.1 a	**Q.2 a**	**Q.3 b**	**Q.4 b**	**Q.5 a**
Q.6 c	**Q.7 d**	**Q.8 c**	**Q.9 c**	**Q.10 b**
Q.11 c	**Q.12 c**	**Q.13 a**		