O P JINDAL SCHOOL, SAVITRINAGAR

ASSIGNMENT

CLASS X PHYSICS

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51 Lateral displacement is directly proportional to thickness of the glass slab. [True/False]   1

ANS: True

52 Nature of image formed by mirror gives an ideal about nature of mirror. [True/False]   1

ANS: True

53 A convex lens (n_g = 3/2) when placed in water (n_w = 4/3) has increased focal length [True/False]   1

ANS: True

54 A convex and a concave lens of equal focal length behaves as a regular glass slab receiving light normally. [True/False]   1

ANS: False

55 Concave lens and convex mirror diverge the rays which fall parallel to the principal axis. [True/False]   1

ANS: True

56 The power of a concave lens is positive.
[True/False]   1

ANS: False

57 Match Column I with Column II.

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

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ANS: (i) → (D), (ii) → (A), (iii) → (B), (iv) → (C)
(i) → (D): For this ray $\angle i = \angle r = 0$
(ii) → (A): The ray of light passing through the focus will emerge parallel to the principal axis after reflection.
(iii) → (B): When object is at infinity, the image is formed at the focus of a concave mirror.
(iv) → (C): A ray from the object parallel to principal axis will pars through the principal focus after refraction in a convex lens.

58 If angle of incidence is 0°, what is the angle of reflection?   1

ANS: 0°

59 The angle between incident ray and reflected ray is 60°. What is the angle of incidence?   1

ANS: Since $\angle i + \angle r = 60°$ but $\angle i = \angle r$, so $\angle i = 30°$.

60 What is the magnification of the images formed by plane mirrors and why? 1

ANS: The magnification of the images formed by plane mirrors is 1 as the size of the image is equal to the size of object.