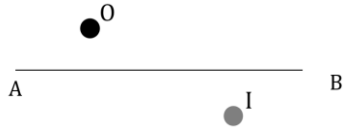
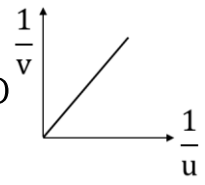
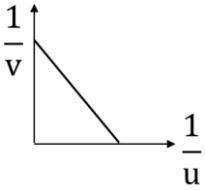
Q.1 The figure shows an object O and its image I formed by a mirror with its pole at B. If AB is the principal axis of the mirror, the type of mirror is

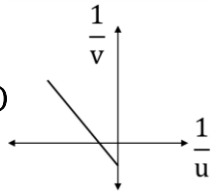


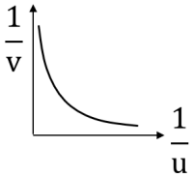
(A) Plane **(B)** Concave
(C) Convex **(D)** Either concave or convex

Q.2 Which of the following graphs correctly represents the variation of $\frac{1}{v}$ versus $\frac{1}{u}$ for a concave mirror? [v = image distance, u = object distance]

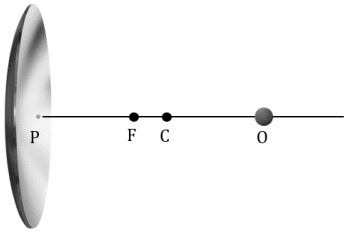
(A) 

(B) 

(C) 

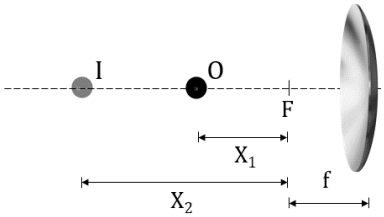
(D) 

Q.3 A point object (O) is moving along the principal axis of a concave mirror with uniform velocity towards the pole. Initially, the object is at infinite distance from pole on right side of mirror as shown in the figure. Before the object collides with mirror, find the number of times for which the distance between object and its image is 40 cm.



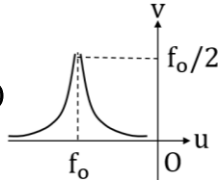
(A) Two times **(B)** Three times **(C)** Four times **(D)** Five times

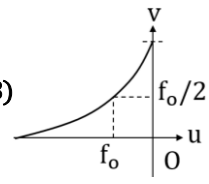
Q.4 An object is placed beyond the principal focus at a distance of 9 cm from it in front of a concave mirror on the principal axis. The image is formed beyond the principal focus at a distance of 16 cm from the principal focus. The focal length of the mirror is

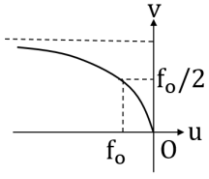


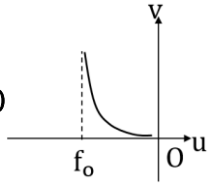
(A) 12 cm **(B)** 11cm **(C)** 10cm **(D)** 13cm

Q.5 A convex mirror of focal length 'f ' is placed at the origin with its reflecting surface towards the negativex − axis. Choose the correct graphs between 'v ' and 'u ' for u < 0.

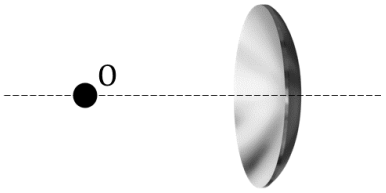
(A) 

(B) 

(C) 

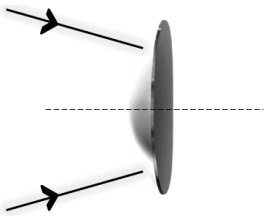
(D) 

Q.6 A concave mirror of focal length f produces an image n times the size of the object. If image is real, then the distance of object from the pole of mirror is



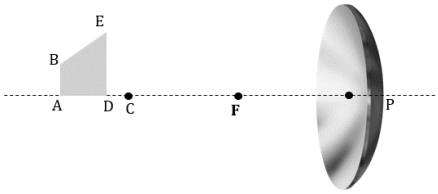
(A) $(n-1)f$ **(B)** $[\frac{(n-1)}{n}]f$ **(C)** $[\frac{(n+1)}{n}]f$ **(D)** $(n+1)f$

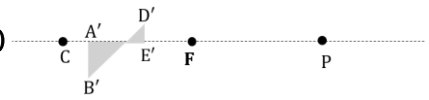
Q.7 Figure shows incident rays falling on a convex mirror. The nature of the object and image, respectively are:

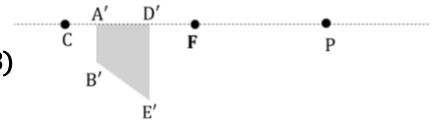


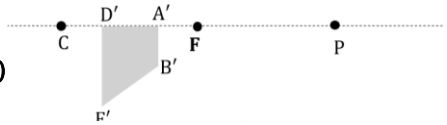
(A) Object → Real, Image → Virtual
(B) Object → Real, Image → Real
(C) Object → Virtual, Image → Virtual
(D) Object → Virtual, Image → Real

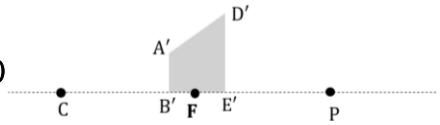
Q.8 An object (ABED) is placed in front of a concave mirror beyond the centre of curvature (C) as shown in the figure. The shape of image will be



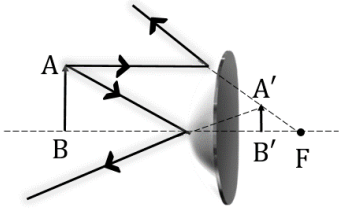
(A)


(B)


(C)


(D)


Q.9 A convex mirror is used to form an image of a real object. Then mark the wrong statement.



(A) The image lies between the pole and focus
(B) The image is diminished in size
(C) The image is erect
(D) The image is real

Q.10 A concave mirror has a focal length of 20 cm. The distance between the two positions of the object for which the image size is double the object size is

(A)20 cm **(B)**40cm **(C)**30cm **(D)**60cm

ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10
Sol.	(B)	(C)	(B)	(A)	(C)	(C)	(C)	(C)	(D)	(A)