

SOME CORRECTIONS TO NSE SOLUTIONS

1. NSEP (PHYSICS)

Part B, Q.3 (a) CORRECTED SOLUTION -

The combination is equivalent to a concave mirror of focal length 40cm. Therefore for a point object at $u = 2f = 80\text{cm}$, the image will be formed at the same position. This means that the rays entering the lens are incident normally on the plane surface as shown in the figure and then they traverse the original path in the reverse direction. In absence of silvering of the plane surface, the rays would emerge parallel to the principal axis.

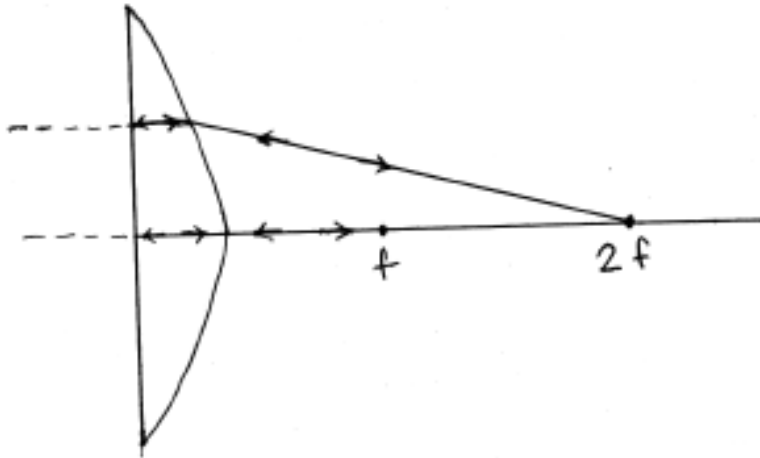
Thus, if we consider the plano convex lens alone, we have $u = 80\text{cm}$, $n_1 = 1$, $n_2 = 1.5$, and $R_2 = \infty$.

So, using the lens makers formula

$$\frac{1}{v} - \frac{1}{u} = (n_2 - n_1) \left(\frac{1}{R_1} - \frac{1}{R_2} \right)$$

$$\text{we get } \frac{1}{\infty} - \frac{1}{80} = (1.5 - 1) \left(\frac{1}{R} - \frac{1}{\infty} \right)$$

$$\text{Hence } \frac{1}{2R} = -\frac{1}{80} \text{ giving } R = -40\text{cm}$$



2. CORRECTIONS TO NSEA (ASTRONOMY) ANSWERS

- (i) Q.No. 1 – deleted
 - (ii) Q.No. 44 – corrected answer (c)
 - (iii) Q.No. 60 – corrected answer (c)
 - (iv) Q.No. 70 – deleted
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