

Solution of the day/Oct-31, 2018

6th Class

- **Mathematics:** Ans: (D)
- **Physics:** Ans: (A)
- **Chemistry:** Ans: (D)
- **Biology:** Ans: (D)

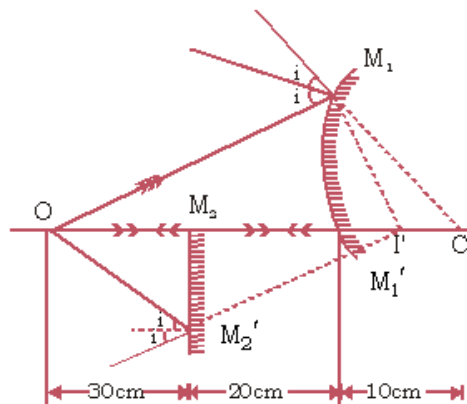
7th Class

- **Mathematics:** Ans: (C)
- **Physics:** Ans: 5
- **Chemistry:** Ans: False –They are hard metals.
- **Biology:** Ans: (D)

8th class

- **Mathematics:** Ans: (B)
- **Physics:**

Sol: Figure shows the conditions of the problem. Here O is the object placed at a distance of 50 cm in front of the convex mirror M_1M_1' . The distance of the plane mirror M_2M_2' from the object is 30cm. The image of the object formed by plane mirror is at I' (virtual image at a distance 30cm behind the plane mirror. For no parallax between the images formed by the mirrors, the image formed by the convex mirror must also be formed at I' . Therefore, for convex mirror,



$$u = PO = -50\text{cm}; P'I' = +10\text{cm}$$

using mirror formula, we have, $\frac{1}{f} = \frac{1}{u} + \frac{1}{v} = \frac{1}{-50} + \frac{1}{10} = -\frac{1}{50} + \frac{1}{10} = \frac{4}{50} = \frac{2}{25}$

$\therefore f = \frac{25}{2} = 12.5\text{cm}$ Radius of curvature of the convex mirror is $R = 2f = 2 \times 12.5 = 25\text{ cm}$

➤ **Chemistry:** Ans: (A)

➤ **Biology:** Ans: (C)

9th Class

➤ **Mathematics:** Ans: (D)

➤ **Physics:** Ans: R/2

➤ **Chemistry:** Ans: (D)

➤ **Biology:** Ans: (B)

10th class

➤ **Mathematics:** Ans: (B)

➤ **Physics:**

Ans: (C) $f = +20\text{ cm}$; $u = -6\text{m} = -600\text{ cm}$

$$\text{i) Now } \frac{1}{f} = \frac{1}{u} + \frac{1}{v} \text{ or } \frac{1}{v} = \frac{1}{f} - \frac{1}{u} = \frac{1}{20} - \frac{1}{-600} = \frac{1}{20} + \frac{1}{600} = \frac{31}{600}$$

$$\therefore v = \frac{600}{31} = 19.4\text{cm}$$

➤ **Chemistry:** Ans: (D)

➤ **Biology:** Ans: (C)

➤ **Reasoning :**

Ans: (D) In each pair, the second number is double the first number. In option (D), the number 35 should have been 30, so it is the odd one