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Given, $P(A) = \frac{1}{2}$, $P(B) = 0$.

$$P(A/B) = \frac{P(A \cap B)}{P(B)} = \frac{P(A \cap B)}{0}$$

= Not defined.

Option (C)

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Given that $P(A/B) = P(B/A)$.

$$P(A/B) = \frac{P(A \cap B)}{P(B)} \quad \text{and}$$

$$P(B/A) = \frac{P(A \cap B)}{P(A)}$$

$$\therefore \frac{P(A \cap B)}{P(B)} = \frac{P(A \cap B)}{P(A)}$$

$$\Rightarrow P(A) = P(B)$$

Option D