

Question: The probability that at least one of the events A and B occurs is 0.6. If A and B occur simultaneously with probability 0.2, then $\Pr(A') + \Pr(B')$ is

(A) 0.4

(B) 0.8

(C) 1.2

(D) 1.6

Solution: : Given,

$$\Pr(A + B) = 0.6 \quad (1)$$

$$\Pr(A \cdot B) = 0.2 \quad (2)$$

$$\therefore \Pr(A + B) = \Pr(A) + \Pr(B) - \Pr(A \cdot B) \quad (3)$$

$$\Pr(A) + \Pr(B) = 0.8 \quad (4)$$

$$1 - \Pr(A') + 1 - \Pr(B') = 0.8 \quad (5)$$

$$\therefore \Pr(A') + \Pr(B') = 1.2 \quad (6)$$