

Probability Assignment

EE22BTECH11022-G.SAI HARSHITH*

Question: If A and B' are independent events, then
 $\Pr(A' + B) = 1 - \Pr(A) \Pr(B')$.

Solution: Given A and B' are independent events

$$\Pr(AB') = \Pr(A) \Pr(B') \quad (1)$$

Consider

$$\Pr(A' + B) = \Pr((AB')') \quad (2)$$

$$= 1 - \Pr(AB') \quad (3)$$

From (1)

$$\Pr(A' + B) = 1 - \Pr(A) \Pr(B') \quad (4)$$

Given statement is true