

EE22BTECH11050 - Snehil Singh

Question 12.13.3.108

Let A and B be two events. If

$$\Pr(A|B) = \Pr(A), \quad (1)$$

then A is of B .

Solution: Given that

$$\Pr(A|B) = \Pr(A) \quad (2)$$

$$\implies \frac{\Pr(AB)}{\Pr(B)} = \Pr(A) \quad (3)$$

$$\implies \Pr(AB) = \Pr(A) \Pr(B) \quad (4)$$

Hence, we can conclude that A is independent of B .