

Assignment-1

AI1110 Probability And Random Variables

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AI22BTECH11007

11.16.3.14. Given $\Pr(A) = \frac{3}{5}$ and $\Pr(B) = \frac{1}{5}$. Find $\Pr(A + B)$ if A and B are mutually exclusive events.

solution:- Given:

$$\Pr(A) = \frac{3}{5} \quad (1)$$

$$\Pr(B) = \frac{1}{5} \quad (2)$$

$$\Pr(AB) = 0 \quad (3)$$

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

$$= \frac{3}{5} + \frac{1}{5} - 0 \quad (5)$$

$$= \frac{4}{5} \quad (6)$$

$$\therefore \Pr(A + B) = \frac{4}{5}$$