

EE23010 NCERT Exemplar

Vishal A - EE22BTECH11057

Question 11.16.3.30

State whether the statement is True or False.

The probability that a person visiting a zoo will see the giraffe is 0.72, the probability that he will see the bears is 0.84 and the probability that he will see both is 0.52.

Solution: Let

A: Probability of seeing the giraffe.

B: Probability of seeing the bears.

Given,

$$\Pr(A) = 0.72 \quad (1)$$

$$\Pr(B) = 0.84 \quad (2)$$

$$\Pr(AB) = 0.52 \quad (3)$$

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

$$= 0.72 + 0.84 - 0.52 \quad (5)$$

$$= 1.04 \quad (6)$$

which does not satisfy the first axiom of probability.

Hence, it is a false statement.