

Answer on Question #81263 – Math – Statistics and Probability

Question

Diabetic Retinopathy is a disease that affects 80% people who have diabetes for more than 10 years. 5% of the Indian population has been suffering from diabetes for more than 10 years. Answer the following questions. What is the joint probability of finding an Indian suffering from Diabetes for more than 10 years and also has Diabetic Retinopathy

Solution

We know that 5% of the Indian population has been suffering from diabetes for more than 10 years and 80% people who have diabetes for more than 10 years have Diabetic Retinopathy.

That is, 80% of those 5% of Indians suffering from diabetes over 10 years have Diabetic Retinopathy.

A probability of finding an Indian suffering from Diabetes for more than 10 years and also has Diabetic Retinopathy is

$$0.05 \cdot 0.8 = 0.04, \text{ that is, } 4\%.$$

So, 4% of the Indian population have Diabetic Retinopathy.

Answer: 4%, that is, 0.04.