SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107
Accredited by NAAC-UGC with 'A' Grade
Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

Department of Information Technology

19IT601– Data Science and Analytics

III Year / VI Semester

Unit 2 – DESCRIPTIVE ANALYTICS USING STATISTICS

Topic 2: Probability Density Function

Probability Density Function

- A function that defines the relationship between a random variable and its probability, such that you can find the probability of the variable using the function, is called a Probability Density Function (PDF) in statistics.

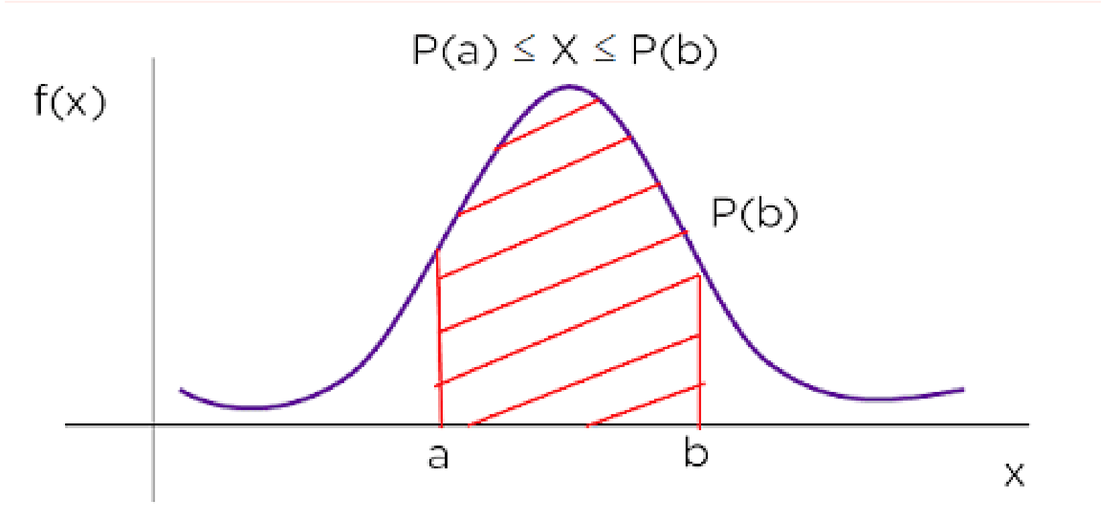
- The Probability Density Function(PDF) defines the probability function representing the density of a continuous random variable lying between a specific range of values. In other words, the probability density function produces the likelihood of values of the continuous random variable.

- Probability Density Function is denoted by f(x)

- Continuous Variable: A continuous random variable can take on infinite different values within a range of values, e.g., amount of rainfall occurring in a month.

Probability Density Function

Now, consider a continuous random variable x, which has a probability density function, that defines the range of probabilities taken by this function as f(x)



As the probability cannot be more than P(b) and less than P(a), you can represent it as:
P(a) <= X <= P(b).

THANK YOU