Frequently Asked Questions

1. Is continuous random variable takes negative values?

Answer: Yes. Depending on the situations, it can assume any value from $(-\infty,+\infty)$. For example, temperature in Rajasthan during winter reaches -2 degree Celsius.

2. Is Probability Density Function Always associate with continuous random variables?

Answer: Yes. Probability function associated only with the continuous random variable is called Probability Density Function.

3. Can we find probability of exact values in continuous random variables i.e. P(X=x)?

Answer: No. For a continuous random variable P(X=x) is always zero.

4. How do you calculate distribution function in a simple way?

Answer: Integrate the P.D.F, keeping upper limit as the required value x.

5. Is there any way to differentiate the random variables as Continuous and Discrete?

Answer: Differentiation between continuous and discrete variables depends on the nature of the variables. When counting is used to check the value of variable it is called discrete and when it is measured it is called continuous random variable. It may fail some time.

6. Is it compulsory to use integration to find probability?

Answer: Yes, it is associated with the continuous function; we can't find the probability using summation or any other method. It is mandatory to use integration to find probability.

7. Given a probability function is it compulsory to check the total integral is unity?

Answer: Yes, unless mentioned that it is P.D.F, it is always advised to check the total probability is unity or one.

8. Can the distribution function always be monotonically increasing?

Answer: No, it is monotonically non- decreasing function, sometime it may not increase but it never decreases.

9. When we find the probability of a continuous random variable assuming values, is it necessary to differentiate between $< or \leq$ at a point x?

Answer: No. Since the function is continuous at a point x, $< or \leq$ does not make any difference in finding probability of continuous random variable.

10. Is it compulsory to use capital letters like X, Y, Z… to denote random variable?

Answer: It is not compulsory, but it is customary. People will understand easily if we use capital letters to denote.

11. Is it compulsory to use small letters like x, y, z… to denote values assumed by the random variable?

Answer: It is not compulsory, but it is customary. People will understand easily if we use small letters to denote values of the variable.

12. Is it compulsory to understand continuous random variable to understand standard probability distributions?

Answer: Yes, without knowing continuous random variable we will not be able to understand probability distribution.

13. What we call probability function associated with the continuous random variable?

Answer: PDF, Probability Density Function.

14. Is there any chance that the solving probability function the result will be negative?

Answer: No, please observe the properties of P.D.F. It is always non negative. It can be zero, but never be negative.

15. Do we need to consider $\leq$ and $<$ separately, while calculating probability using P.D.F?

Answer: Properties are:
No. For a continuous random variable the function is continuous at a given point X =x.