Probability and Statistics(Quiz)T2

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* Required

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Suppose X is normally distributed with mean 5. If P(X ≤ 3) = 0.2 what is the standard deviation of X ? *

○ σ = 0.42

○ σ = −0.42

○ σ = 0.38

◉ σ = 2.38

When do the conditional density functions get converted into the marginally density functions? *

○ Only if random variables exhibit statistical dependency

◉ Only if random variables exhibit statistical independency

○ Only if random variables exhibit deviation from its mean value

○ If random variables do not exhibit deviation from its mean value

The standard normal curve is symmetric about the value _____ *

○ 0.5

○ 1

○ ∞

◉ 0

A mobile conversation follows a exponential distribution f (x) = (1/3)e-x/3. What is the probability that the conversation takes more than 5 minutes? *

◉ e-5/3

○ e-15

○ 1

○ 0

Find the value of k if f (x, y) = k(x-y) for 0 < x, y < 1 is to be joint density function. *

○ k=0

◉ k=1

○ k=6

○ can't say

If f= 1/12 if 49≤x≤51,2≤y≤8 , and 0 otherwise. Find the var(x+y) *

◉ 1/4

○ 0

○ 4

○ 10/3

What is the area under a conditional Cumulative density function? *

○ 0

◉ 1

○ inifinity

○ can't say

If f(x,y)=4xy ;0≤x≤1,0≤y≤1 0 ;otherwise Are x ,y are uncorrelated? *

○ No

◉ yes

○ can't say

If μ is 8 then the standard deviation of exponential probability distribution is *

○ 0.425

◉ 0.125

○ 0.225

○ 0.325

The shape of the Normal Curve is _____ *

○ Flat

◉ Bell Shaped

○ Circular

○ Spiked

Normal Distribution is applied for _____ *

◉ Continuous Random Distribution

○ Discrete Random Variable

○ Irregular Random Variable

○ Uncertain Random Variable

Section *

4B

Exponential distribution is bi-variate. *

○ yes

◉ no

○ can't say

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For a standard normal variate, the value of mean is? *

○ ∞

○ 1

◉ 0

○ not defined

Name of the Student *

Sanchit Bajaj

The joint p.d.f of (X,Y) is given by f (x, y) = 6e–(x+y) , 0 ≤ x, y ≤ ∞.Are X and Y independent *

◉ yes

○ no

○ can't say

○ any

Normal Distribution is also known as _____ *

○ Cauchy's Distribution

○ Laplacian Distribution

◉ Gaussian Distribution

○ Lagrangian Distribution

The area under a standard normal curve is? *

○ 0

◉ 1

○ ∞

○ not defined

If f (x, y)= kxye−(x2 + y2) , x ≥ , y0 ≥ 0 is the joint pdf, find k . *

○ 5

◉ 4

○ 10

○ none of these

Suppose X ~ N(5,32). What is the value of P(X ≤ 2) ? *

◉ 0.8413

○ 0.1587

○ 0.7258

○ 0.2742

Let Z = (X, Y) be a bivariate normal random variable. Then, which of the following statements is false? *

○ X and Y are independent if and only if they are uncorrelated.

○ X + Y is univariate normal.

○ Y | X = x is distributed as a normal random variable.

◉ X + Y and X − Y are independent.

Normal Distribution is symmetric is about _____ *

○ Variance

⦿ Mean

○ Standard deviation

○ Covariance

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