



MATHS

BOOKS - UNITED BOOK HOUSE

MODEL QUESTION PAPERS SET-05

Exercise

1. Choose the correct alternative : If x and y are random variables with expectations 3 and 5 respectively, then expectation of $(3x - 5y)$ is-

A. -10

B. 16

C. -16

D. 0

Answer:



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2. Choose the correct alternative : If a random variable x - Bin (n,p) then the maximum value of variance of x will be-

A. np

B. $\frac{n^2}{4}$

C. $\frac{n}{4}$

D. $\frac{n}{\sqrt{2}}$

Answer:



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3. Choose the correct alternative : sample of size n is drawn from a population of size N

with parameter μ , σ then the S.E (\bar{X}) by

SRSWR will be-

A. $\frac{n}{N} \sigma$

B. $\frac{\sigma}{n}$

C. $\frac{\sigma}{\sqrt{n}}$

D. $\frac{\sigma}{\sqrt{N}}$.

Answer:



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4. Choose the correct alternative : Power of test may be obtained from-

A. $1 - P\{\text{type I error}\}$

B. $1 - P\{\text{type II error}\}$

C. $P(\text{type I error})/P(\text{type II error})$

D. $P(\text{Sample space})/P(\text{critical region})$.

Answer:



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5. Choose the correct alternative : What is the probability of drawing a random number 07 from random number series?

A. $\frac{1}{90}$

B. $\frac{1}{10}$

C. $1/7$

D. $\frac{1}{100}$

Answer:



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6. Answer the following questions (Alternatives are to be noted): Define 'probability mass functions'.



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7. Answer the following questions (Alternatives are to be noted): If $n = 11$ and $p = \frac{1}{4}$ then give the models of the binomial distribution.



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8. Answer the following questions

(Alternatives are to be noted): For uniform (2, 8) distribution. state the value of μ_1 .



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9. Answer the following questions

(Alternatives are to be noted): What is sample space?



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10. Answer the following questions (Alternatives are to be noted): State the multiplicative model of time series.



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11. Answer the following questions (Alternatives are to be noted): If $u = 2x + 5$ and $v = -3y + 1$ and regression coefficient of y on x is -12 , determine the regression coefficient of v on u .





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12. Answer the following questions (Alternatives are to be noted): If the relation between two variables x and y is $y = 2x + 3$, find the correlation coefficient between x and y .



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13. Answer the following questions (Alternatives are to be noted): prove that

$$-1 \leq r \leq 1.$$



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14. Answer the following questions (Alternatives are to be noted): If a random variable X follows binomial distribution with $mean = 2$ and $E(x^2) = \frac{28}{5}$ then find $P(x \neq 0)$



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15. Answer the following questions (Alternatives are to be noted): If x and y are both are negative random variables, mutually independent, $E(xy) = 6$ and $|E(x)| = 2$, find $E(Y)$.



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