



MATHS

BOOKS - UNITED BOOK HOUSE

MODEL QUESTION PAPERS SET-03

Exercise

1. Choose the correct alternative : [MCQ] The numerical value of the AM of two regression coefficients---

A. can not less than $|r|$

B. cannot exceed

C. is equal to $|r|$

D. none of these.

Answer:



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2. Choose the correct alternative : [MCQ] Mean deviation about mean of a $N(0, 1)$ distribution is-

A. $\sqrt{\frac{\pi}{2}}$

B. $\sqrt{2\pi}$

C. $\frac{1}{\sqrt{2\pi}}$

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

Answer:



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3. Choose the correct alternative : [MCQ]

Acceptance region of a null hypothesis is

- A. equal with sample space
- B. complement of sample space
- C. critical region
- D. complement of critical region.

Answer:



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4. Choose the correct alternative : [MCQ] f

$X \sim (\mu, \sigma^2)$ then an unbiased estimator of μ

is-

A. $\sum_{i=1}^n x_i$

B. $\frac{1}{n} \sum_{i=1}^n x_i$

C. $\frac{1}{n^2} \sum x_i$

D. $\frac{1}{n} \sum X_i^2$

Answer:



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5. Answer the following questions

(Alternatives are to be noted): If $X \sim \text{Bin}(7, 1/3)$,

comment on the kurtosis of the distribution of X.



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6. Answer the following questions

(Alternatives are to be noted): Mean and S.d.

of Bin (n, p) are 4 and $\sqrt{\frac{8}{3}}$. Find the values of

n and p.



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7. Answer the following questions (Alternatives are to be noted): Define simple random sampling without replacement.



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8. Answer the following questions (Alternatives are to be noted): Distinguish between estimate and estimator.



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9. Answer the following questions (Alternatives are to be noted): What is the difference between simple and composite hypothesis?



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10. Answer the following questions (Alternatives are to be noted): What do you mean by irregular component of time series data?



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11. Answer the following questions

(Alternatives are to be noted) : Let $X \sim P(\lambda)$

and $2P(X = 0) = P(X = 1)$. Find $P(x \geq 1)$.



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12. Answer the following questions

(Alternatives are to be noted) : If X be a

continuous random variable with p.d.f.

$$f(x) = k, a \leq x \leq b$$

0, otherwise

Find $E(x)$



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13. Answer the following questions

(Alternatives are to be noted): In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible : $V(x) = 9$, Regression equations :

$$8x - 10y + 66 = 0 \quad \text{and} \quad 40x - 18y = 214.$$

Find the standard deviation of y .



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14. Answer the following questions

(Alternatives are to be noted): In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible : $V(x) = 9$, Regression equations :

$$8x - 10y + 66 = 0 \quad \text{and} \quad 40x - 18y = 214.$$

Find the standard deviation of y .



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15. Answer the following questions (Alternatives are to be noted): If r be the correlation coefficient between two variables x and y then prove that $-1 \leq r \leq 1$.



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16. Answer the following questions (Alternatives are to be noted): What are the advantages of sampling over complete enumeration?





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17. Answer the following questions (Alternatives are to be noted): Compare the advantage and disadvantages of mathematical curve fitting and moving average method.



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