29/10/25

TB251212M

Reg. No :.....

Name :.....

BACHELOR'S DEGREE EXAMINATION, OCTOBER 2025

2025 ADMISSIONS REGULAR

SEMESTER I - CORE COURSE (STATISTICS)

MS1CC03B24 - Business Statistics and Logic

Time : 2 Hours **Maximum Marks : 70**

Part A

Answer any 2 questions from the bunch of CO1. Each question carries 3 mark. **(3x2=6)**

1. Explain the two types of kurtosis. [CO1,Apply]
2. Explain the meaning of range in statistics.Give an example. [CO1,Apply]
3. Define standard deviation.Write the formula for finding coefficient of variation. [CO1,Understand]

Part A

Answer any 3 questions from the bunch of CO2. Each question carries 3 mark. **(3x3=9)**

4. Define covariance. [CO2,Understand]
5. Explain what does a scatter diagram represent? [CO2,Understand]
6. List any two utilities of regression analysis. [CO2,Apply]
7. Define correlation. [CO2,Apply]

Part B

Answer any 2 questions from the bunch of CO1. Each question carries 5 mark. **(5x2=10)**

8. Explain with examples the relationship between mean,median and mode. [CO1,Apply]
9. Differentiate between skewness and kurtosis. [CO1,Analyse]
10. Calculate standard deviation and coefficient of variation for the data: 15,20,25,30,35. [CO1,Apply]

Part B

Answer any 1 question from the bunch of CO2. Each question carries 5 mark. **(5x1=5)**

11. Using an example,describe how to draw a scatter diagram. [CO2,Apply]
12. State and explain the properties of correlation coefficient. [CO2,Understand]

Part C

Answer any 1 question from the bunch of CO3. Each question carries 20 mark. **(20x1=20)**

13. A factory has three machines A, B, C. Their daily outputs are 40%, 35%, and 25% of total production. Their defect rates are 2%, 3%, and 4% respectively. An item selected at random is found to be defective.
    State and use Bayes' Theorem to compute the probability that it was produced by machine B. [CO3,Remember]
14. From a well-shuffled deck of 52 playing cards, two cards are drawn at random without replacement. (a) Find the probability that both drawn cards are aces.
    (b) Find the probability that one card is an ace and the other is a king.
    (c) Calculate (b) assuming the cards are drawn with replacement. Compare both results. [CO3,Analyse]

Part C

Answer any 1 question from the bunch of CO4. Each question carries 20 mark. **(20x1=20)**

15. Consider the following argument:
    All metals conduct electricity.
    Aluminium is a metal.
    Therefore, Aluminium conducts electricity. (a) State whether this reasoning is inductive or deductive.
    (b) Construct a counter example where the reasoning structure is the same, but the conclusion is false.

    [CO4,Remember]

16. If WATER = YCVGT and RIVER = TKXGT, find the code for OCEAN. Explain the step-by-step logic used.

    [CO4,Apply]