

ADMISSION NUMBER											

School of Liberal Education

Master of Arts in Economics
Mid Term Examination - Nov 2023

Duration : 90 Minutes
Max Marks : 50

Sem I - K1PN103T - Statistics

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Shed light on the properties of arithmetic mean. K2 (2)
- 2) What is the median, and how does it differ from the mean and mode in terms of central tendency in a data set? K1 (3)
- 3) How would you describe the consistency or spread of incomes based on the standard deviation in this dataset? {2500, 3000, 3500, 3800, 4000, 4200, 4500, 4800, 5500, 8000}. K2 (4)
- 4) For a sample of 15 monthly electricity bills in a neighborhood, calculate the standard deviation. Data (in dollars): [80, 100, 110, 90, 95, 120, 105, 85, 88, 115, 92, 96, 98, 93, 102] K2 (6)
- 5) How can you interpret the sign of skewness in a dataset? What does positive, negative, and zero skewness indicate about the data distribution? K3 (6)
- 6) Given a dataset of exam scores for a class of 30 students, calculate the kurtosis of the data. The scores are as follows: 85, 92, 78, 67, 91, 89, 75, 88, 96, 82, 79, 84, 90, 81, 87, 95, 83, 88, 74, 93, 77, 86, 80, 94, 76, 89, 70, 98, 72, 73. Calculate the kurtosis of this dataset and interpret the result in terms of the data's shape. K3 (9)
- 7) The coefficient of correlation between two variables X and Y is 0.48. The covariance is 36. The variance of X is 16. Find the standard deviation of Y. K4 (8)
- 8) The coefficient of correlation between two variates X and Y is 0.8 and their covariance is 20. If the variance of X series is 16, find the standard deviation of Y series. K4 (12)

OR

Calculate the correlation between prices and demand using Karl Pearson coefficient of correlation. Prices: 10, 12, 15, 18, 19, 25, 28, 29, 40. Demand: 20, 18, 16, 17, 12, 10, 8, 7, 5 K4 (12)