

First Semester FYUGP Degree (Reg/Sup) Examination
November 2025
KU1DSCSTA124 - BASIC STATISTICS AND NUMERICAL
SKILLS
2024 Admission onwards

Time : 2 hours

Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. Define a matrix and provide an example.
2. List and briefly explain the different types of matrices.
3. Define the median of a dataset.
4. Explain the concept of a weighted average.
5. What are quartiles of a dataset?
6. Explain quartile deviation. How is it different from range?
7. Define the term "measures of dispersion" and its significance in statistics.
8. How is the coefficient of variation calculated?

Section B

Answer any 4 questions. Each carry 6 marks.

9. What are the different measures of central tendency? Explain the key differences between the arithmetic mean, median, and mode.
10. Define arithmetic mean of a set of data. Discuss the advantages and disadvantages of using the arithmetic mean as a measure of central tendency.
11. Define harmonic mean of a set of data. Discuss the advantages and disadvantages of using the harmonic mean as a measure of central tendency.
12. Define quartiles of a set of data. Calculate the range and quartile deviation for the following data set: 10, 12, 15, 18, 22, 24.
13. Define range and coefficient of range. If the range of a dataset is 30 and the highest value is 70, what is the coefficient of range?
14. Explain the steps to calculate the coefficient of mean deviation from the median.

Section C

Answer any 2 questions. Each carry 14 marks.

15. Discuss in detail the four levels of measurement scales and provide examples of how each is used in research.
16. Examine the benefits and challenges of using primary data collection methods such as surveys, interviews, and observations, compared to secondary data sources like reports, databases, and websites.
17. State Cramer's Rule for solving a system of linear equations. Solve the following system of linear equations using Cramer's Rule:
$$\begin{aligned} 2x+3y-z &= 1 \\ 4x+y+2z &= 7 \\ x-2y+z &= 4. \end{aligned}$$