

First Semester FYUGP Degree (Reg/Sup) Examination
November 2025
KU1DSCSTA121 - INTRODUCTORY STATISTICS
2024 Admission onwards

Time : 2 hours

Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. What is standard deviation? Why is it widely used?
2. Define range for raw data and for a grouped frequency distribution
3. Calculate the first raw moment for the dataset: 2, 4, 6, 8, and 10.
4. What do you understand by skewness? How is it measured?
5. Define skewness and kurtosis.
6. What is ordinal data? Illustrate with an example.
7. Explain the difference between interval and ratio data.
8. Define the target population in a sample survey.

Section B

Answer any 4 questions. Each carry 6 marks.

9. Define raw moments and calculate the first three raw moments for the data:
Class: 0 – 10 10 – 20 20 – 30 30 – 40 40 – 50
Freq.: 6 10 14 7 3
10. Define moment of a random variable. Derive the relation between moments about mean in terms of moments about any point.
11. Explain various measures of skewness.
12. Discuss the advantages and disadvantages of primary data collection methods.
13. Describe the concept of simple random sampling and its benefits.
14. Discuss the differences between census and sample surveys with examples.

Section C

Answer any 2 questions. Each carry 14 marks.

15. (a) Discuss the geometric mean and harmonic mean. Provide the situations where each is useful in statistical analysis.
- (b) State and prove any three mathematical properties of AM.
16. Define partition values: quartiles, deciles, and percentiles. How to calculate these values for a frequency distribution

17. (a) The marks scored by 10 students of a class in Mathematics and Physics are listed below. In which of the subjects the students' performance is more consistent?

Student :	1	2	3	4	5	6	7	8	9	10
Maths :	35	37	38	43	33	35	41	45	32	40
Physics :	43	45	36	41	39	44	35	39	46	38

- (b) Define coefficient of variation. Given two sets of observations: Set I: 48, 40, 53, 44, 57 and 49; Set II: 47, 41, 50, 46, 58, and 47. Obtain coefficient of variation for Set I and Set II. Identify more consistent set.