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# First Semester FYUGP Degree (Reg) Examination (Deficiency Credit) April 2026

## KU1DSCSTA121 - INTRODUCTORY STATISTICS

2024 Admission onwards

Time : 2 hours Maximum Marks : 70

### Section A

**Answer any 6 questions. Each carry 3 marks.**

1. Find the mean and median of the following set of numbers: 3, 7, 9, 12, 15.
2. Explain the concept of mode.
3. What is ordinal data? Illustrate with an example.
4. Why we choose stratified sampling over simple random sampling?
5. What are non-probability sampling methods?
6. Explain the relationship between raw and central moments.
7. Define raw moments in statistics.
8. Define kurtosis. Explain any one method of measuring kurtosis.

### Section B

**Answer any 4 questions. Each carry 6 marks.**

9. Explain the various sources of secondary data and their relevance.
10. Explain the advantages and limitations of primary data.
11. What are the advantages of sampling over census?
12. 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 |

13. The first four raw moments of a distribution are 2,136,320, and 40,000. Find out coefficients of skewness and kurtosis.
14. Explain various measures of skewness.

### Section C

**Answer any 2 questions. Each carry 14 marks.**



15. Define coefficient of variation. From the following data, state which series is more variable?

| Class | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---|---|---|---|---|---|---|
| Series A | 10 | 18 | 32 | 40 | 22 | 10 |
| Series B | 18 | 22 | 40 | 32 | 18 | 10 |

16. (a) The mark 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 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.

17. (a) Discuss the geometric mean and harmonic mean. Provide the situations where each is useful in statistical analysis.

(b) Sate and prove any three mathematical properties of AM.