INSTRUCTIONS:

1. This assignment must be completed in groups.(Ten groups in total)
2. This set of questions is for all classes handled by Prof. Yarhands Dissou Arthur.
3. Show all workings clearly where applicable.
4. Answer all questions.
5. Submit on or before 11/02/2025 8:00 am

SECTION A: THEORETICAL CONCEPTS

1. Explain the difference between qualitative and quantitative variables with two examples each.
2. Discuss the four scales of measurement with appropriate examples for each.
3. Why is it important to classify variables correctly in statistical analysis?
4. Describe how the concept of measures of central tendency applies to real-life decision-making scenarios.

SECTION B: DATA ANALYSIS AND APPLICATION

Question 1: Understanding Data Types

A researcher collects data on students in a university class, including their age, favorite color, GPA, and mode of transport to school. Classify each of these variables based on their type and scale of measurement. Justify your classification.

Question 2: Constructing and Interpreting Frequency Tables

The following data represents the scores obtained by 20 students in a statistics quiz:

18, 20, 15, 22, 25, 19, 17, 23, 21, 16, 24, 22, 20, 18, 23, 21, 19, 25, 20, 22

(a) Construct a frequency distribution table for the data, using a suitable class interval. (b) Identify the mode of the dataset from the frequency table. (c) Determine the median score.

Question 3: Measures of Central Tendency

Marks (x)	Frequency (f)
10	3
20	5
30	8
40	4
50	2

The following table shows the frequency distribution of marks obtained by students in an exam:

(a) Compute the arithmetic mean. (b) Calculate the mean using the assumed mean method with 30 as the assumed mean. (c) Interpret the results in the context of student performance.

Question 4: Application and Critical Thinking

A university wants to conduct a survey to understand student satisfaction levels across different faculties.

(a) Identify and describe at least three different sampling techniques that could be used for this survey. (b) Discuss the advantages and disadvantages of each sampling technique. (c) Suggest the most appropriate sampling technique for this study and justify your choice.

END OF ASSIGNMENT