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**UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR
SECOND YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DIPLOMA
IN
CRIMINOLOGY AND CRIMINAL JUSTICE**

COURSE CODE: DCR 064

COURSE TITLE: SOCIAL STATISTICS

DATE: 4/12/2023

TIME: 2-4PM

INSTRUCTIONS TO CANDIDATES

Answer question one (compulsory) and any other two questions

TIME: 2 Hours

KIBU observes ZERO tolerance to examination cheating

QUESTION ONE

- a) What is the difference between the two branches of statistics? (2 marks)
- b) Match the following functions of statistics to their correct descriptions. (3 marks)

Analytical function	Use of historical data and trends to help estimate future social developments
Comparative function	Examination of patterns and trends to identify correlations and causation to inform policy decisions and social interventions
Predictive function	Consideration of different groups, regions or time periods to assess disparities, progress or regressions in social indicators

- c) Discuss any two uses of proportions and percentages in social statistics. (4 marks)
- d) Use assumed mean to compute the true mean of 105,107,108,109,113 (4 marks)
- e) Use the table below to answer the questions that follow

Quantity	101-104	105-108	109-112	113-116	117-120	121-124
Frequency	2	16	41	30	8	3

- i. Calculate
 - i. the mean of the distribution. (4 marks)
 - ii. the mode of the distribution. (3 marks)
- ii. Draw an ogive hence estimate the median of the distribution. (4 marks)
- f) Highlight any **three** differences between parametric and non-parametric statistics. (6 marks)

QUESTION TWO

Discuss any **five** roles of statistics in the research process. (20 marks)

QUESTION THREE

The table below shows the frequency distribution of scores of 100 contestants in a series of statistics contests.

Marks	50-99	100-149	150-249	250-349	350-499
Frequency	13	16	38	24	9

- a) Draw a histogram and use it to estimate the modal mark. (4 marks)
- b) Calculate the median mark. (3 marks)
- c) Calculate the mean mark. (3 marks)
- d) Calculate the standard deviation. (10 marks)

QUESTION FOUR

- a) What is hypothesis testing? (2 marks)
- b) Differentiate between ordinal and nominal scales of measurement (4 marks)
- c) Discuss the steps undertaken in hypothesis testing (14 marks)

QUESTION FIVE

- a) Discuss any four data collection methods (8 marks)
- b) Give any two reasons why range is not a good measure of variation (2 marks)
- c) Differentiate between a sample and a population (2 marks)
- d) Define the following terms (8 marks)
 - i) Arithmetic mean
 - ii) Mode
 - iii) Hypothesis testing
 - iv) Frequency distribution