

40



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
MAIN
SECOND YEAR SECOND SEMESTER
FOR THE DIPLOMA
IN
SOCIAL WORK & CRIMINOLOGY

COURSE CODE: DCR/DSC 064

COURSE TITLE: SOCIAL STATISTICS

DATE: 28TH APRIL 2023

TIME: 2PM-4PM

INSTRUCTIONS TO CANDIDATES

Answer question one (compulsory) and any other two questions

TIME: 2 Hours

KIBU observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over

Question one (30 Marks)

- a) State whether the following statements are true or false
 - i. Media reports are one of the sources of primary data. (1 Mark)
 - ii. Cluster sampling is a probability sampling plan. (1 Mark)
 - iii. An ogive is also known as frequency polygon. (1 Mark)
 - iv. The harmonic mean for 2,4 and 8 is 4. (1 Mark)
 - v. Quartile deviation is also known as Semi Inter-Quartile Range. (1 Mark)

b) Find the variance of 3,6,9,10,7,12,13,15,6,5,13. (3 Marks)

c) Organize the data below into frequency distribution table. (4 Marks)

15.0	17.4	10.3	9.2	20.7	18.9	16.6	24.4	23.7	18.6	26.1
16.5	19.7	12.9	15.7	30.8	15.4	20.3	24.0	29.6	18.3	23.7
17.8	24.6	23.0	21.4	32.8	12.5	17.5	18.3	23.2	21.6	20.8
29.8	24.5	28.4	13.5	17.1	27.1	27.9				

d) In a class of 100 students, the mean of a test is 15 and standard deviation is 2.5 assuming that the scores are normally distributed.

- i. How many students scores lie between 12.5 and 17.5? (4 Marks)
- ii. How many students scored above 20? (4 marks)
- iii. How many students scored between 16 and 18? (4 Marks)

e) Discuss any three data collection methods. (6 Marks)

Question Two (20 marks)

a) State and describe the two branches of statistics. (4 Marks)

b) Define the following terms;

- i) element (4 Marks)
- ii) frequency

c) Discuss the four levels of measurement in statistics. (12 Marks)

Question Three (20 marks)

a) State any two advantages of graphical representation of data. (4 Marks)

b) The table below shows the number of letters collected from the post office by a messenger during a given year.

Letters	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55
Frequency	5	19	21	23	25	27	20	25	13	12

Draw

- a) A frequency polygon to represent the data (5 Marks)
- b) A histogram and use it to estimate the data (7 Marks)
- c) Calculate the mean number of letters collected. (4 Marks)

Question Four (20 marks)

- a) List the four types of mean (4 Marks)
- b) Consider the following distribution

Class	30 -40	40-50	50 -60	60 – 70	70 – 80
Frequency	3	10	19	31	11

 Use the distribution to compute
 - i) Mean (2 Marks)
 - ii) Mode (2 Marks)
 - iii) Interquartile range (5 Marks)
 - iv) Standard Deviation (3 Marks)
- c) What are the weakness of range as a measure of dispersion? (4 Marks)

Question five (20 marks)

- a) Discuss any three properties of a normal distribution. (6 Marks)
- b) What is statistical hypothesis. (2 Marks)
- c) There is a recommended procedure of conducting a statistics test. Discuss the steps adopted. (12 Marks)