CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE IN COMMUNITY DEVELOPMENT

SOCI 302: SOCIAL STATISTICS 1

STREAMS: CDEV (ODEL)

TIME: 2 HOURS

DAY/DATE : TUESDAY 5 /10/ 2021   **8.30 AM – 10.30 AM**

INSTRUCTIONS TO CANDIDATES:
- Answer Question One (COMPULSORY) and any other TWO questions
- DO NOT WRITE ANYTHING on the question paper.

1.   a)   Distinguish the following terms as used in social statistics.   [12 Marks]

(i)   Population and sample

(ii)   continuous variable and discrete variable

(iii)   Parameter and statistic

b)   Explain the four (4) types of scales of measurement.   [16 Marks]

2.   The following table shows the number of children per family in a housing estate

Number of children	0	1	2	3	4	5	6
Number of families	1	5	11	27	10	4	2

(i)   Calculate

a)   The mean number of children per family   [3 Marks]

b)   The variance   [4 Marks]

b)   The standard deviation   [2 Marks]

c)   The standard deviation   [3 Marks]

d)   The median   [3 Marks]

(ii)   Draw the cumulative frequency graph.   [8 Marks]

3.   The Masses, to the nearest kg, of 50 adults were recorded as follows:

Mass (kg)	45-50	51-56	57-62	63-68	69-74	75-80
Frequency	2	10	11	20	6	1

(i)   Find

a)   the interquartile range   [7 Marks]

b) 6th decile   [3 Marks]

c) 80th percentile   [3 Marks]

(ii)   Calculate mean absolute deviation for the above data.   [7 Marks]

4a)   Differentiate the following terms.   [8 Marks]

(i)   Descriptive statistics and inferential statistics

(ii)   Quantitative data and qualitative data

b)   The probability that horse A wins a race against B is 2/5. If the horses run 3 races in succession, find the probability that:

(i)   horse B wins all the races   [3 Marks]

(ii)   horse A wins only 1 race   [3 Marks]

(iii)   horse A wins at least 1 race   [3 Marks]

(iv)   horse B wins more races than horse A   [3 Marks]

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