CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN COMMUNITY DEVELOPMENT

SOCI 302: SOCIAL STATISTICS I

STREAMS: BSC (CDEV)   **TIME: 2 HOURS**

DAY/DATE: TUESDAY 20/7/2021   **11.30 A.M. – 1.30 P.M.**

INSTRUCTIONS:
- **Answer question ONE and any other TWO**
- **Do not write on the question paper**

1. (a) Differentiate the following terms   [10 marks]

    (i)   Descriptive statistics and inferential statistics

    (ii)   Population and sample

    (iii) Continuous variable and discrete variable

    (iv)   Qualitative data and quantitative data

    (v)   Parameter and statistic

    (b) Suppose a population has a mean of 275 and a standard deviation of 22.3.

    Compute the standard score corresponding to $X = 250, 275$ and 280

    [10 marks]

    (c) Calculate the mean absolute deviation of the following frequency distribution

    [10 marks]

Marks	$0 - 10$	$10 - 20$	$20 - 30$	$30 - 40$	$40 - 50$
No. of students	5	8	15	16	6

2. (a) Discuss the significance of statistical methods in social sciences   [10 marks]

    (b) Elaborate on the importance of measuring dispersion in social sciences

    [10 marks]

3.   The table below shows the distribution of marks of forty candidates in a test

Marks	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90
Frequency	2	2	3	9	12	5	2	3	2

From the information given calculate

(a) Mean   [3 marks]

(b) Median   [3 marks]

(c) Modal class   [1 mark]

(d) Range   [1 mark]

(e) Variance   [4 marks]

(f) Standard deviation   [2 marks]

(g) 8th decile   [3 marks]

(h) 60th percentile   [3 marks]

4.   (a)   A bag contains 8 red marble balls and 5 yellow marble balls. If two balls are
           drawn from the bag one at a time, find the probability of drawing a red ball and
           a yellow ball.

           (i)   Without replacement   [5 marks]

           (ii)   With replacement   [5 marks]

     (b)   The table below represents the distribution of scores in an examination

Scores	30-34	35-39	40-44	45-49	50-54	55-59	60-64	64-69
Frequency	2	4	12	9	9	8	3	3

Determine the

   (i) The lower quartile   [3 marks]

   (ii) The upper quartile   [3 marks]

   (iii)Interquartile range   [2 marks]

   (iv)Semi interquartile range   [2 marks]