CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

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

SOCI 302/353: SOCIAL STATISTICS I

STREAMS: B.A (CDEV)   **TIME: 2 HOURS**

DAY/DATE: MONDAY 29/03/2021   **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:
- **Answer question ONE and any other TWO questions.**

Q1.   (a)   Explain the meaning of the following terms used in social statistics.
          (i)   Median
          (ii)   Discrete variable
          (iii)   Statistics
          (iv)   Probability   (8 marks)

       (b)   The following data was obtained from students' statistical method test.

35	50	30	40	42	40	54	36	45
50	40	45	35	38	37	46	51	62
60	48	38	92	59	56	47	72	51
56	45	40	61	72	67	47	63	52
70	69	08	37	64	58	65	53	64
11	51	91	12	08	76	56	55	75
36	37	84	96	13	82	78	61	58

          Group the data into classes 0 – 9, 10 – 19 e.t.c   (4 marks)

       (c)   Calculate
          (i)   Mean Score
          (ii)   Median Score
          (iii)   Modal score
          For grouped data in (b) above.   (12 marks)

(d)   Calculate

       (i)   Range
       (ii)   Interquartile range
       (iii)   Variance
       (iv)   Standard deviation
       (v)   Mean Absolute Deviation.   (16 marks)

Q2.   (a)   Give two advantages and two disadvantages of diagrammatic methods of data presentation.   (4 marks)

    (b)   Human beings blood can be typed as either O, B, A or AB. The following is the distribution of blood of randomly chosen people.

Blood type	O	B	A	AB
Probability	0.35	0.25	-	0.20

       (i)   What is the probability that two people can have blood group of A or AB.

       (ii)   What is the probability of having O or B and A or AB among the population.

       (iii)   What is the probability of having blood group of O and B or A or AB.
                                                                              (11 marks)

Q3.   (a)   Give the advantages and disadvantages of the following as measures of central tendency
       (i)   Mean
       (ii)   Median
       (iii)   Mode   (6 marks)

    (b)   In a restaurant, 56% of the people ordered for some chicken, while the rest ordered sea fish. What is the probability of selling three fish plates to the next five customers.   (6 marks)

    (c)   When one makes five (5) tosses of a coin what are the chances of getting three heads.   (3 marks)

Q4.   (a)   Calculate the   (i)   Mean
                     (ii)   Mean absolute deviation
                     (iii) 35th percentile
                     (iv) 75th percentile
                     (v) 90th percentile
For the following scores 10,11, 31, 6, 8, 10, 11,10,15,26   (15 marks)