CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF MASTERS OF ARTS IN GEOGRAPHY

GEOG 834: QUANTITATIVE METHODS IN GEOGRAPHY

STREAMS: MA (GEOG)   **TIME: 3 HOURS**

DAY/DATE: FRIDAY 09/08/2019   **2.30 PM – 5.30 PM**

INSTRUCTIONS:

- **Answer Question One and Three other Questions**
- **Diagrams, illustrations and examples should be used when necessary**

1.   (a)   Differentiate between descriptive and inferential statistics.   [4 marks]

      (b)   Using data below, plot a scatter diagram and comment on the nature of existing relation between the two variables.   [4 marks]

Length (cm)	15	20	40	12	5	45	60	100
Weight (kgs)	1.8	2.4	3	4.5	5.0	6.2	6.8	7.0

      (c)   Calculate the mean, standard deviation and range for the following data values:
15, 75, 80, 22, 50, 25, 30, 35   [5 marks]

      (d)   Compute the Z-score for the following value
8, 2, 6, 10, 8, 4   [2 marks]

2.   (a)   Calculate chi-square for the following values of wheat yields and rainfall.
                                                                  [9 marks]

Wheat yields	High	Low
Rainfall	8	2
High		
Low	5	13

      (b)   Examine the role of statistics in the study of geography.   [6 marks]

3.   Using the data below:

X	Y
5	10
8	12
4	8
3	4
2	3
6	9

(i)   Plot X against Y   [2 marks]

(ii)   Compute the scope of the data   [4 marks]

(iii) Find the Y-intercept   [2 marks]

(iv)   Calculate Pearson's Product of Moment Coefficient   [7 marks]

4.   Discuss any FIVE techniques used in selecting sample from the population.
                                                                  [15 marks]

5.   Write explanatory notes on the following:

(a)   Type I and Type II errors   [3 marks]
(b)   Hypothesis   [3 marks]
(c)   Sample   [3 marks]
(d)   Regression   [3 marks]
(e)   Correlation   [3 marks]