

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF ARTS ECONOMICS AND SOCIOLOGY

SOCI 302: SOCIAL STATISTICS

STREAMS: BA (ECON & SOCI) Y3S1

TIME: 2 HOURS

DAY/DATE: TUESDAY 05/12/2017

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS:

SECTION A (COMPULSORY)

Q1. The number of accidents on a highway was recorded

No. of people in households	2-4	5-7	8-10	11-13	14-16
No. of households	2	5	10	8	5

Process the data and present the information in form of

- | | |
|-------------------------|-----------|
| (i) Frequency table | [6 marks] |
| (ii) Histogram | [6 marks] |
| (iii) Frequency polygon | [6 marks] |
| (iv) Ogive | [6 marks] |
| (v) Pie chart | [6 marks] |

SECTION B (ANSWER ANY TWO QUESTIONS)

Q2. (a) Determine the interquartile range for the following distribution 8, 4, 7, 6, 15, 12, 16, 18 [10 marks]

(b) Calculate the mean, medium and mode of the following distribution

Age (yrs)	0-4	5-9	10-14	15-19	20-24
No. of children	8	10	20	7	5

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Q3. (a) Calculate the variance (S^2) and standard deviation (S) and Mean Absolute Deviation (MAD) of the following scores 8, 4, 6, 2, 5 [12 marks]

(b) Given that median = $L + \frac{(n/2-cf)}{F} \times c$. Calculate median of the data in the table. [8 marks]

Class	3-7	8-12	13-17	18-22	23-27	28-32
F	15	13	27	29	10	13
Cf	15	28	55	84	94	107

Q4. (a) Outline the advantages and disadvantages of mean, mode and median. [10 marks]

(b) Calculate the mode of the grouped scores in the table.

Marks	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Frequency	20	40	80	100	50	20	10	10	0

5. (a) Write brief notes on the four types of measurement scales. [8 marks]

(b) (Brown, green, orange, red, tan, yellow) [12 marks]

The probability of each outcome is show below

	Brown	Red	Yellow	Green	Tan	Orange
Probability	0.3	0.2	0.2	0.1	0.1	0.1

Determine the probability of obtaining the following colours

- (i) Red and orange and yellow
- (ii) Not obtaining red and brown and tan
- (iii) Brown and green or yellow
- (iv) Yellow and green or yellow and red