

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF ARTS IN ECONOMIC & SOCIOLOGY

SOCI 403: SOCIAL STATISTICS II

STREAMS: B.Sc CRIMINOLOGY & SECURITY

TIME: 2 HOURS

DAY/DATE: FRIDAY 8/12/2017

11.30 A.M - 1.30 P.M.

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions.
- Do not write anything on the question paper

QUESTION ONE

- (a) Describe three factors that influence correlation coefficient. [6 Marks]
- (b) Define the following terms;
- (i) Social statistics
 - (ii) Multiple regression analysis
 - (iii) Variable [6 Marks]
- (c) Discuss the scales of measurements used in the correlation analysis. [8 Marks]
- (d) A sample of 182 was taken to test the hypothesis (H_0) that the mean number of hours that students spend sleeping in a month is not less than 300 hrs. If the sample mean was 275 and the variance was 29.5, test the null hypothesis at $\alpha = 0.05$ level of significance. [10 Marks]

QUESTION TWO

Given the following data that show the results scored by students in Mathematics and Statistics;

Scores in Mathematics (x)	Scores in Statistics (y)
5	4
4	8
6	8
6	7
8	7
3	8
5	8
4	3
1	1

Derive the regression equation [18 Marks]

Predict the value of x given

- (i) Y=10
- (ii) Y=2

[2 Marks]

QUESTION THREE

(a) State and explain four applications of statistics in Social Sciences.

[8 Marks]

(b) Calculate Spearman's Rank Correlation Coefficient(r_s) for the following distribution.

[12 Marks]

x	y
20	17
9	8
11	8
11	7
13	7
16	12
18	18
20	15
15	11
9	12
6	8
5	9

QUESTION FOUR

The following data was obtained from two groups of respondents, male and female

Male	Female
27	28
6	8
26	26
15	14
14	14
3	4
12	10
9	11
6	9

The null-hypothesis indicated that there is no significant difference in the means of the two groups. Using t-test, test the null hypothesis at $\alpha= 0.05$ significance level. (Critical $t=2.200$)

[20 Marks]

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