MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016

THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS IN CRIMINOLOGY WITH INFORMATION TECHNOLOGY

CITY CAMPUS-EVENING

ACS 313: QUANTITATIVE TECHNIQUES IN CRIMINOLOGY

Date: 14th December, 2015 Time: 5.30 - 7.30 pm

INSTRUCTIONS:

- Answer ANY THREE questions.

ACS 313: Quantitative Techniques in Criminology (Evening, Kisumu city campus)

Answer any THREE questions

1. (a). Outline **THREE** benefits of sampling (3.3 marks)
   (b). Discuss **TWO** probability sampling techniques (20 marks)

2. a) Explain the meaning of perfect posture, perfect negative, and spurious correlation. (6mks)

   b) A food processing company in Kisumu city collected data on the monthly income and food expenditure of seven households. The data are as follows;

Income X (Kshs. 1000)	Food expenditure Y (Kshs. 1000)
35	9
49	15
21	7
39	11
15	5
28	8
25	9

   Using income as the independent variable and food expenditure as the dependent variable,

   I. Plot a scatter diagram of the data. (4mks)
   II. Compute the coefficient of correlation and state whether there is an evident relationship between income and food expenditure. (13.3mks)

3. In an interview, 10 students A to I were ranked using written interview (method 1) and oral interview (method 2) as follows

	A	B	C	D	E	F	G	H	I
Method 1	3	5	1	7	5	9	2	10	4
Method 2	1	7	3	6	8	10	4	5	2

Calculate Spearman's rank correlation coefficient R, and interpret the results. (23.3mks)

Formulae

$$R = 1 - \frac{6\Sigma d^2}{n(n^2-1)}$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{\left(n\sum x^2 - \left(\sum x\right)^2\right)\left(n\sum y^2 - \left(\sum y\right)^2\right)}}$$

4. Discuss any **TWO** computer software packages used in analysing quantitative data. (23.3 mks)

5. (a) Examine the difference between descriptive and inferential statistics (10 marks)

   (b) Discuss the interview method of quantitative data collection citing its advantages and disadvantages (13.3 Marks)

6. a) Explain the meaning and the purpose of a research design(5mks)

   b) Evaluate the descriptive, survey, and experimental research designs. (18.3 Mks)