



KIBABII UNIVERSITY

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
SPECIALS/SUPPLEMENTARY**

THIRD YEAR

FOR THE DEGREE

OF

BACHELOR OF CRIMINOLOGY

COURSE CODE: SCR 326/314

COURSE TITLE: SOCIAL STATISTICS

DATE: 21ST/01/2022

TIME: 8AM-10AM

INSTRUCTIONS TO CANDIDATES

Answer question ONE (30 marks) and any other TWO questions (20 marks each)

TIME: 2Hours

Kibabii University observes ZERO tolerance to
examination cheating

QUESTION ONE (COMPULSORY)

- a) Define the term social statistics [2 marks]
b) Define the following [6 marks]
i) Arithmetic Mean
ii) Geometric mean
iii) Median
iv) Mode
c) Briefly describe any five functions of social statistics [10 marks]
d) A Small social project consists of the following activities [12 mark]
e)

No. of activities	11-19	20-29	30-39	40-49	50-59	60-69
Duration (weeks)	13	8	20	12	6	1

Using the above calculate;

- i) Arithmetic mean
ii) Geometric mean
iii) Median for the data
iv) Standard deviation
f) Give a reason as to why sampling is carried out instead of a census [2 marks]

QUESTION TWO

Use the data given below to compute:

X	74	93	55	41	23	92	64	40	71	33	30	71
Y	81	86	67	35	30	100	55	52	76	24	48	87

- i) The regression equation (a) Y on X and X of Y [8 marks]
ii) Correlation coefficient and its interpretation [8 marks]
iii) Give instances that would call for the use of; [4 marks]
a) Correlation
b) Regression

QUESTION THREE

The table below shows the mark of 100 candidates in a social statistics examination: [20 marks]

Marks	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Frequency	4	9	16	24	18	12	8	5	3	1

- a) Determine the median and the quartiles
- b) If 55 marks is the pass mark, estimate how many students passed
- c) Find the pass mark if 70% of the students are to pass
- d) Determine the range of marks obtained by:
 - i) the middle 50% of the students
 - ii) the middle 80% of the students

QUESTION FOUR

- a) Explain the use of the following statistics in analyzing data [8 marks]
 - i) Correlation
 - ii) ANOVA
 - iii) Standard deviation
 - iv) Chi-square
- b) A bill is to be passed on lowering the age limit for drinking and as a result a political scientist decided to carry out a research to determine the attitudes towards the bill on the basis of political affiliations. He obtained the following results

	For	Undecided	Against
Party A	68	22	110
Party B	92	18	90

State a null hypothesis and test for the chi-square (X^2)

[12 marks]

QUESTION FIVE

The data in the table below relates to the weekly maintenance to the age (in months) of ten similar machines in a non-governmental manufacturing project.

Machines	1	2	3	4	5	6	7	8	9	10
A	5	10	15	20	30	30	30	50	50	60
B	190	240	250	300	310	335	300	300	350	395

- a) Calculate the product moment correlation coefficient between the age of the machine and cost and give its interpretation [10 marks]
- b) Find the regression equations for [10 marks]
 - i) Y on X
 - ii) X on Y