KIBABII UNIVERSITY

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

SECOND YEAR

SPECIAL/SUPPLEMENTARY EXAMINATIONS

FOR THE DIPLOMA

OF

CRIMINOLOGY& SOCIAL WORK

COURSE CODE: DCR 064

COURSE TITLE: SOCIAL STATISTICS

DATE: 22ND/JULY/2022 **TIME**: 2PM-4PM

INSTRUCTIONS TO CANDIDATES

Answer question one (compulsory) and any other two questions

TIME: 2 Hours

Kibabii University observes ZERO tolerance to examination cheating

QUESTION ONE

a) Define the term 'statistics' and briefly explain any five of its functions **[10 marks]**

b) Distinguish between a correlation and regression analysis **[2 marks]**

c) The table below presents data relating to the number of weeks of training by project management trainees and the number of mistakes made by 12 randomly selected project management trainees.

Sample worker	1	2	3	4	5	6	7	8	9	10	11	12
Weeks of training	7	9	6	14	8	12	10	4	2	11	1	8
Number of mistakes	26	20	28	16	23	18	24	26	38	22	32	25

Determine and interpret the coefficient of correlation between weeks of training and the number of mistakes made **[10 marks]**

d) Explain the meaning of data measurement and describe any four different types of data measurement scales as used in research statistics **[8 marks]**

QUESTION TWO

100 Families were interviewed about their income levels and gave the following results;

Income levels in $	Number of families
1-100	10
101-200	15
201-300	35
301-400	21
401-500	12
501-600	7

From the shown data compute; **[20 marks]**

a)

i) Mean earning using a provisional mean of 250.5

ii) Median earning

iii) Variance

iv) Standard deviation for the data

v) Mean deviation from the mean

b) State the central limit theory and outline its importance

QUESTION THREE

a) The data of table below relates to the weekly maintenance to the age (in months) of ten similar machines in a manufacturing company. Calculate the product moment correlation coefficient between the age of the machine and cost and give its interpretation;

[12 marks]

Machines	1	2	3	4	5	6	7	8	9	10
Age (X)	5	10	15	20	30	30	30	50	50	395
Cost(Y)	190	240	250	300	310	335	300	300	350	395

b) Calculate the regression coefficient(R^2) and give its interpretation **[8 marks]**

QUESTION FOUR

Consider the following data;

Class	10-19	20-29	30-39	40-49	50-59	60-69
Frequency						

a) Using the data as given, compute for; **[14 marks]**

i) Lower quartile

ii) Upper quartile

iii) Interquartile range

iv) Interquartile deviation

b) Draw an give and indicate; **[6 marks]**

i) Q_1

ii) Q_3

QUESTION FIVE

a) A normal distribution is one of the most important distributions in social sciences. Briefly explain any two reasons as to why this is so **[4 marks]**

b) Outline any four characteristics of a normal curve **[4 marks]**

c) State any three methods used in research statistics to test for normality of data distribution **[3 marks]**

d) Below is a list of marks of 45 students in DCR 051 Examinations.

72	57	63	50	37	47	47	28	44
35	54	60	44	26	57	36	35	70
57	61	17	51	46	35	70	82	22
43	27	51	29	33	55	81	7	18
45	20	43	23	54	72	77	46	75

i) Prepare a grouped frequency distribution for this data **[5 marks]**

ii) Construct a cumulative frequency distribution curve **[4 marks]**