"Investing in Africa's Future"

COLLEGE OFHUMANITIES, SOCIAL SCIENCES, THEOLOGY AND EDUCATION

COURSE CODE	**HPS 148**
COURSE TITLE	**STATISTICS IN PSYCHOLOGY**
LECTURER	**MRS MADZIWA**
DATE	**APRIL 2017**
TIME	**3 HOURS**

INSTRUCTIONS

1 Do not write your name on answer sheets

2 Use answer sheets provided to write your answers

3 Answer **all** questions.

Question 1

Define the following terms

a) Statistic (1 mark)
b) Mode (1 mark)
c) Parameter (1 mark)
d) Ratio scale (1 mark)
e) Negative skew (1 mark)
f) Continuous variable (1 mark)
g) Histogram (1 mark)
h) Correlation (1 mark)
i) Range (1 mark)
j) T test (1 mark)

Question 2

The headmaster of school where children are screened according to ability randomly selected 10 pupils from each of the 4 grade 5 classes and compared their marks after a standard test was administered. Below is the list marks.

Grade 5 A	Grade 5 B	Grade 5 C	Grade 5 D
27	29	17	20
31	23	11	25
36	27	14	21
34	25	19	26
38	28	15	24
33	21	13	22
3O	26	18	23
29	22	19	28
28	20	20	23
26	30	21	19

Calculate the mean, range, variance and standard deviation of each of the 4 classes (12 marks)

Question 3

The following are scores of 50 participants on attitude scale

67	63	64	57	56	55	53	53	54	54
45	45	46	47	37	23	34	44	27	44
45	34	34	16	23	43	16	44	36	36
35	37	24	14	43	37	27	24	36	26

25 36 26 5 44 13 33 17 33 33

Construct a histogram and frequency polygon curve based on the data (8 marks)

Question 4

A class teacher wanted to establish whether there was a correlation between marks of 10 students who sat for 2 aptitude tests; a local and an international one.

STUDENT	Mark of local test	Mark of international test
A	90	94
B	85	92
C	80	81
D	75	75
E	70	74
F	70	73
G	70	75
H	60	66
I	60	53
J	50	52

Draw a scatter plot and calculate the appropriate correlation coefficient (10 marks).

Question 5

A manufacturing company switched from a five to four-day working week and below are the number of units produced by ten employees before and after the change.

Before	25	26	27	22	29	25	29	30	25	28
After	23	24	26	23	30	34	26	32	25	29

Determine whether there is a significant difference by calculating the appropriate *t* value at 0.05 significance level. (10 marks)

Question 6

Research on benefits of physical exercises and survival of heart attack was carried out

Survival status	Physical exercise	No physical exercise
Survived one year	50	28
Did not survive	3	11
Total	53	39

Establish whether there is a difference by calculating *chi*-square (10 marks)