



PAN AFRICA CHRISTIAN UNIVERSITY

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

**END OF SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF ARTS IN COUNSELLING PSYCHOLOGY**

JAN-APRIL 2025 SEMESTER

CAMPUS: ROYSAMBU

DEPARTMENT: PSYCHOLOGY

COURSE CODE: COU4113

COURSE TITLE: COUNSELLING STATISTICS

EXAM DATE: THURSDAY 3RD APRIL 2025

DURATION: 3 HOURS

TIME: 5:30PM-8.30PM

INSTRUCTIONS

- Read the instructions and questions carefully before you write the answers.
- Write your **STUDENT NUMBER** in the Answer Booklet given
- **Answer question 1 and any other TWO questions**
- *Write clearly and legibly.*
- *ALL PAC University's examination rules and regulations apply*
- *Round off your answers to the nearest 1 Decimal Place for all questions involving fractions.*
- *Show all your workings on the Answer Sheet*
- *Submit the Answer Sheet as an attachment.*

QUESTION 1

a) Distinguish between interval scale and ratio scale in statistics

(2 marks)

b) Outline two measures you can put in place to reduce Type II error in hypothesis testing

(2 marks)

c) The following dataset represents the number of Kenyans who followed the Africa Union elections from a sample of 50 constituencies across Kenya.

(23, 17, 5, 17, 11, 18, 11, 7, 22, 14, 24, 14, 13, 14, 4, 11, 20, 11, 10, 5, 18, 1, 12, 18, 1, 14, 1, 4, 23, 4, 24, 6, 15, 1, 5, 21, 20, 2, 6, 17, 15, 10, 7, 12, 8, 10, 10, 21, 16, 6).

Create a cumulative percentage frequency distribution table using 4 as your class interval.

(4 marks)

d) The following dataset contains the quantity of flowers that were bought on Valentine's Day from a sample of supermarket outlets in Nairobi County.

(6, 7, 10, 2, 6, 3, 4, 4, 5, 1, 4)

Calculate the absolute Semi-Inter-Quartile Range (SIQR)

(4 marks)

e) Outline four conditions which make the median a better measure of central tendency than the mean

(4 marks)

f) The following table presents the number of employees of USAID who visited a local counselling facility due to job loss. Calculate the median.

Class interval	0 – 10	10 – 20	20 – 30	30 – 40
Frequency (f)	5	6	12	6

(4 marks)

QUESTION 2

The following data is a record of the number of people who received spiritual counselling at a local church over a 6 month period.

Jan	Feb	Mar	Apr	May	Jun
10	2	4	5	1	4

- a) Calculate the variance (5 marks)
- b) Compute Karl Pearson's Coefficient of Skewness (5 marks)

QUESTION 3

The following dataset relates to the number of youth diagnosed with depression in a national survey involving a sample of 11 counties across Kenya.

County Code	001	006	011	017	022	028	031	034	040	044	047
Number of youth	8	4	3	3	9	6	3	5	3	2	1

- a) Calculate Absolute Quartile Deviation (5 marks)
- b) Compute the Coefficient of Quartile Deviation (5 marks)

QUESTION 4

A psychology student read that positive psychology increases the chances of performing well in exams. The student tested this claim by recording the positive psychology score of 6 students against their GPA for the semester as follows:

Positive psychology	5	6	5	2	0	3
GPA	3.7	3.5	3.3	2.0	1.7	2.7

- a) Calculate the correlation coefficient (6 marks)
- b) Interpret the result (2 marks)
- c) The student concluded that positive psychology leads to better exam performance. Explain to her why correlation is not causation (2 marks)

QUESTION 5:

The following data relates to the number of mentorship campaigns and corresponding prevalence of teenage delinquency

Number of campaigns	2	1	3	4	5	3	6
Delinquency prevalence	4	3	3	3	2	4	1

Required:

- a) Determine the regression equation of the line for the dataset (6 marks)
- b) Calculate the prevalence level when there is no campaign (4 marks)