



PAN AFRICA CHRISTIAN UNIVERSITY
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
END OF SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF ARTS IN COUNSELLING PSYCHOLOGY
JANUARY-APRIL 2019 SEMESTER

CAMPUS: ROYSAMBU

DEPARTMENT: PSYCHOLOGY

COURSE CODE: COU4113

COURSE TITLE: COUNSELLING STATISTICS

EXAM DATE: WEDNESDAY 10th APRIL 2019

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
- *Write clearly and legibly.*
- **Answer question ONE and any other TWO questions**
- Round off all your answers to **ONE DECIMAL PLACE**
- Show all your workings on the answer sheet.
- *ALL PAC University's examination rules and regulations apply*

QUESTION ONE: COMPULSORY

- a) Explain three measures of dispersion (6 marks)
- b) Using a well-labelled diagram, describe a negative skewed distribution (4 marks)
- c) Explain any five procedures you would use to analyze a set of data (10 marks)
- d) Distinguish between parametric statistics and non-parametric statistics (4 marks)
- e) Using an example, differentiate between an interval scale and a ratio scale (6 marks)
- f) Distinguish between Type I and Type II error (4 marks)
- d) Explain any three uses of correlation (6 marks)

QUESTION TWO

The following dataset refer to hypothetical composite scores for 15 countries obtained from the World Happiness Report.

(20, 21, 21, 23, 19, 24, 27, 39, 39, 44, 23, 23, 23, 24, 23)

Determine:

- a) Mean (6 marks)
- b) Sum of squared residuals (10 marks)
- c) Variance (10 marks)
- d) Standard deviation (4 marks)

QUESTION THREE

The following table refers to alcohol load of drivers obtained from samples of Alcoblow kits on Kenyan roads.

Name of road	Thika Road	Mombasa Road	Outer Ring road	Waiyaki Way	Ngong Road	Kiambu Road	Uhuru Highway	Langata road
Alcohol load	8	9	7	7	5	0	2	7

Determine:

- a) Range (2 marks)
- b) Median score (4 marks)
- c) Lower Quartile (4 marks)
- d) Upper Quartile (4 mark)
- e) Skewness (6 marks)
- f) Draw a well-labelled bar graph to represent the data (6 marks)

QUESTION FOUR

The following data refers to the attitudes of counselling students towards mathematics and their test scores on statistics test

Attitude score	5	3	6	7	8
Statistics test score	60%	40%	70%	80%	80%

Determine:

- a) The mean of Attitude score (5 marks)
- b) The mean of Statistics test score (5 marks)
- c) Apply Pearson's correlation method to compute the correlation coefficient (16 marks)
- d) Comment on the results. (4 marks)

QUESTION FIVE

In the following table are recorded data showing the test scores of married individuals on an emotional intelligence (EQ) test and their marital stability (MS) on a 10-point scale:

Married individual	1	2	3	4	5	6	7	8	9	10
EQ test score	40	70	50	60	80	50	90	40	60	60
MS score	2.5	6.0	4.0	5.0	4.0	2.5	5.5	3.0	4.5	3.0

Required:

- a) Draw a well-labelled scatterplot to represent the data (12 marks).
- b) Using a line of best fit, predict the MS score for an individual whose EQ score is 100 (8 marks)
- c) Explain three uses of regression analysis in psychology (6 marks)
- d) Discuss one shortcoming of linear regression technique (4 marks)