



PAN AFRICA CHRISTIAN UNIVERSITY
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
END OF SEMESTER EXAMINATION FOR THE DEGREE OF
MASTER OF ARTS IN MARRIAGE & FAMILY THERAPY
MAY-AUGUST 2019

CAMPUS: ROYSAMBU

DEPARTMENT: COUNSELLING PSYCHOLOGY

COURSE CODE: MFT601A

COURSE TITLE: STATISTICS FOR RESEARCH

EXAM DATE: WEDNESDAY 7th AUGUST 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 1 and any other FOUR questions**
- *ALL PAC University's examination rules and regulations apply*

QUESTION ONE [COMPULSORY] – 40 MARKS

- a) There are 4 types of measurement scales used in collecting statistical data: Nominal, ordinal, Interval and Ratio. Identify the statistical measurement scale you would use to collect the data on the following questions **[5 marks]**
- What is your age?
 - How much money did you spend last semester?
 - What is your marital status?
 - How many shops did you enter at the Mall?
 - How would you rate the quality of teaching received from your lecturer?
- b) Explain the two types of statistics **[4 marks]**
- c) Describe the following statistical sampling techniques and cite an appropriate situation where each is applicable:
- Cluster sampling **[4 marks]**
 - Snow balling **[4 marks]**
 - Purposive sampling **[4 marks]**
- d) Explain three differences between positive and negative skewness in data **[6 marks]**
- e) Briefly explain any three methods of statistical data collection **[9 marks]**
- h) The following data represents the ages of 16 clients reporting for counselling sessions in a certain clinic: 40,75,66,52,47,37,31,42,68,52,42,67,44,16,25,72
Determine the interquartile range for the ages **[4 marks]**

SECTION B: Answer any four questions from this section

QUESTION TWO

- a) A firm categorized the employees according to their ages and computed the percentage of employees falling under each age class as below:

Age	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
%	1.3	8.8	19	22.6	19.4	7.8	9.2	7.4	2.3	2.2

Compute and interpret:

- The mean age **[5marks]**
 - The median age **[6marks]**
- b) Highlight four advantages of using median as a measure of central tendency **[4 marks]**

QUESTION THREE

- a) By use of an illustration, differentiate between mesokurtic and leptokurtic distribution of data **[5marks]**

b) Explain any five applications of statistics

[10 marks]

QUESTION FOUR

a) The data below represents the monthly expenditures (in thousands of shillings) of 1000 families sampled from a county:

Income (000)	100-120	120-140	140-160	160-180	180-200	200-220	220-240
Families	17	53	199	194	327	208	2

Determine and interpret:

i. The standard deviation of the expenditure

[8marks]

ii. Coefficient of Variation

[7marks]

QUESTION FIVE

a) Explain any two applications of correlation analysis

[6marks]

b) The data below shows the number of domestic violence cases registered in 10 counties and the unemployment rate (%) in each county in a certain year

County	1	2	3	4	5	6	7	8	9	10
Domestic violence cases	300	310	320	260	460	600	190	350	400	480
Unemployment rate (%)	35	14	30	23	32	26	20	21	23	30

i. Determine the Spearman Rank correlation coefficient between the two variables

[6marks]

ii. Comment on your answer in (i)

[3 marks]

QUESTION SIX

a) Explain any two types of correlation in data

[4 marks]

b) A Counselling expert sampled 10 clients visiting her clinic in a particular year and recorded the number of visits made by these clients against the number of years that the client has been married. The result was as follows:

Client	1	2	3	4	5	6	7	8	9	10
Years of marriage	5	12	6	14	28	8	38	3	13	16
No. of visits	7	3	9	2	3	6	5	2	1	2

Determine and interpret for the Counsellor:

i. The Covariance between years of marriage and number of visits

[5marks]

- ii. Karl Pearson Correlation Coefficient between the two variables of concern

[6marks]