



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
MAIN EXAMINATION**

**UNIVERSITY EXAMINATIONS
2021 / 2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
MASTER OF EDUCATION**

COURSE CODE: EDF 802

COURSE TITLE: RESEARCH METHODS II

DATE: THURSDAY 21ST APRIL 2022

TIME: 2:00 – 5:00PM

INSTRUCTIONS TO CANDIDATES

**ANSWER QUESTION ONE (1) AND ANY OTHER TWO (2)
QUESTIONS**

TIME: 3 HOURS

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

QUESTION ONE

a) Briefly explain the difference between each pair of the following concepts:

- i) Interval scale and ratio scale (5 mks)
- ii) Independent and dependent variables (5 mks)

b) The following marks categorized in classes were obtained by students during a Continuous Assessment Test (CAT) in one of the courses in a local university

Class	0-3	4-7	8-11	12-15	16-19	20-23
Frequency	7	4	18	12	7	6

- i) Calculate the mean score for the population (5 mks)
 - ii) Compute the variance and the standard deviation (5 mks)
- c) Distinguish between the following, giving examples where applicable:
- i) Measure of central tendency and measure of dispersion (5 mks)
 - ii) Positively skewed distribution and negatively skewed distribution (5 mks)

QUESTION TWO

A researcher experiments with different types of background music to assess effects on learning in mentally challenged children. Over the course of several weeks, he used soft background music, rock music, classical music and no music and gets the scores on a given learning task by random selection of four learners. The results are as follows:

Soft	15	18	22	17
Rock	13	20	16	15
Classical	15	19	24	18
None	14	23	17	14

Test if there is any difference in mean score on learning task of the learners based on the type of background music. Take $\alpha = 0.05$

(15 mks)

QUESTION THREE

In an annual essay contest on Physical Features on Kenya, eight (8) students' submitted essays to be judged by two teachers, Mrs. Mary and Mr. John. The scores are as follows:

S/n	Students	Mrs Mary (x)	Mr John (y)
1.	Mark	78	41
2.	Jill	68	35
3.	James	72	29
4.	Jane	56	34
5.	Andrew	63	27
6.	Rose	82	38
7.	Linda	62	28
8.	Joan	61	30

- a) Transform x and y into ranks (2 mks)
- b) Determine the coefficient of correlation (10 mks)
- c) Interpret the results found in part (b) above. (3 mks)

QUESTION FOUR (20 MARKS)

- a) A cone of diameter 60 mm, height 120 mm and apex A rests on the horizontal plane with one of its generators as shown in **Figure Q4**. Copy the views and draw the plan in the direction of arrow P. (14 Marks)

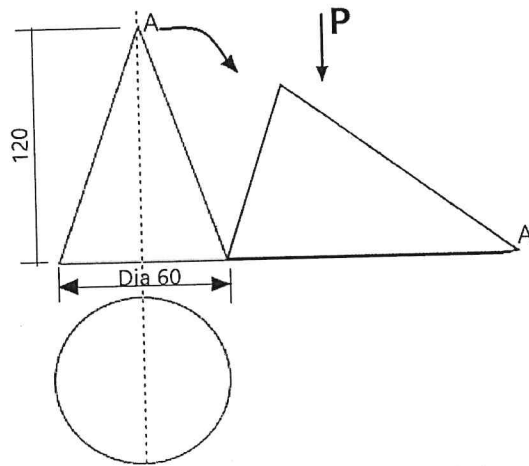


Figure Q4

- b) Use labelled sketches to differentiate between one-point and two-point perspective drawings. (6 Marks)