



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR
FIRST YEAR SECOND SEMESTER**

**SCHOOL OF EDUCATION
MASTER OF EDUCATION`**

COURSE CODE: EPS 8101

COURSE TITLE: EDUCATION STATISTICS

DATE: 6/12/2023

TIME: 1430 – 1630 HRS

INSTRUCTIONS TO CANDIDATES

- *Answer any THREE questions.*

QUESTION ONE

a) Describe **FIVE** functions of statistics in education research **(5 marks)**

b) Differentiate between the following terms used in educational research statistics:

- i) Null hypothesis and alternate hypothesis
- ii) Descriptive statistics and inferential statistics
- iii) Continuous and discrete variable
- iv) Parametric test and non-parametric tests
- v) Percentile rank and percentile point

(5 marks)

c) Given the following data of scores derived from a Research Methods test,

Class Interval	Frequency
51-53	8
48-50	6
45-47	5
42-44	3
39-41	2
36-38	1
33-35	2
30-32	1

Compute mode, median, mean, variance and standard deviation for the above data **(10 marks)**

QUESTION TWO

a) Using examples, describe various scales of measurements of data.

(4 marks)

b) Distinguish between the following:

- i. Type I error and type II error
- ii. Frequency polygon and ogive
- iii. Significance level and confidence level
- iv. Skewness and kurtosis.

(4 marks)

Given below is a set of 80 scores obtained from a Statistics test.

47	94	69	68	47	51	78	62	55	53
79	81	86	78	88	55	69	53	58	87
82	65	68	71	50	76	74	53	56	71
77	50	65	79	70	40	69	97	45	68

59	85	80	74	42	61	73	57	64	50
62	79	75	91	68	50	64	44	64	76
91	69	59	68	50	68	66	55	50	70
73	50	77	81	58	62	68	84	55	46

Prepare a complete grouped frequency distribution table for the above data, which should have eight columns (class, real class limits, tally marks, frequency, and midpoints, less than cumulative frequency and more than cumulative frequency. Take a class -interval of size 5, width 40 – 44 as the lowest class-interval. **(12 marks)**

QUESTION THREE

- a) A preliminary test and final test were given to 10 candidates for a counseling job. the following data of marks were obtained:

Preliminary test: 92,89,87,86,83,77,71,63,53,50.

Final test: 86,83,91,77,68,85,52,82,37,57.

Calculate the spearman's rank correlation coefficient for the data.

(12 marks)

- b) Grades on a semester examination in a course in a university are normally distributed with $m=78$ and $Sd=8$. The lecturer in charge wants to award a grade A to 10% of the student. What is the least score x , that can be designated an A on the examination results? **(8 marks)**

QUESTION FOUR

- a) With examples, explain the meaning of the following statistical concepts;
- i) Standardization
 - ii) Normalization
 - iii) Standard score
 - iv) Percentile rank
 - v) Z-score

(5 marks)

b) Given a mean of 40 and a standard deviation of 16, complete the following table:

X	Z	T-score	Stanine
10			
26			
38			
42			
44			

(15 Marks)

QUESTION FIVE

The table below is a contingency table showing numbers of two groups of students differing in ability, who passed a statistics test.

Outcome	Low intelligence group	High intelligence group	Total
Passed	48	62	110
Failed	52	38	90
Total	100	100	200

Compute a chi-square for the above data and test for significance at 0.05 level
(20 marks)

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