



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

P.O. Box 972-60200 - Meru-Kenya.
Tel: +254 (0)799529958, +254 (0)799529959, +254 (0)712524293
Website: www.must.ac.ke Email: info@must.ac.ke

UNIVERSITY EXAMINATIONS 2024/2025

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR POST GRADUATE DIPLOMA OF EDUCATION EPG 4150: EDUCATIONAL TESTS AND MEASUREMENT

DATE: JANUARY 2025

TIME: 3 HOURS

INSTRUCTIONS:

Answer Question ONE (Section A) and any other THREE Questions from section B.

Start each question on a fresh page

Use of scientific calculators is permitted.

SECTION A

QUESTION ONE – (24 MARKS)

a) Giving appropriate examples, explain the following terms as they are used in educational testing:

- i) Regional norms
- ii) Item discrimination index
- iii) Standard error of measurement
- iv) Fairness
- v) Correction for guessing
- vi) Achievement tests
- vii) Non-standardized tests
- viii) Speed tests

(11 Marks)

b) A teacher obtained the person-score matrix below based on scores obtained by a group of fourteen-year-olds on an achievement test.

EXAMINEES	Item	K	L	M	N	O	P	Q	R	S	T
1	0	3	5	1	2	2	1	2	0	2	
2	1	1	2	5	4	1	1	2	2	1	
3	2	1	1	1	4	3	2	1	0	3	
4	1	1	0	0	4	2	3	1	1	2	
5	1	1	2	2	0	3	1	4	5	1	
6	1	2	3	3	1	2	5	1	2	1	
7	1	2	3	2	1	1	0	0	1	2	
8	4	1	2	1	1	0	1	2	2	3	
9	1	1	2	3	2	5	1	2	1	1	
10	5	1	1	0	1	2	3	1	1	2	

- Use the split half method to estimate the reliability of the test.
- What is the reliability of the full test?
- Comment on the suitability of the split half method to estimate the reliability of this particular test. (13 Marks)

SECTION B

QUESTION TWO – (12 MARKS)

With reference to the recurrent debate on examination results and the use of tests to measure academic achievement in Kenya, are tests a good measure of human abilities? (12 Marks)

QUESTION THREE – (12 MARKS)

- Using examples, distinguish between:
 - Instruction and assessment

- ii) Content validity and predictive validity
- iii) Tests and examinations
- iv) Formative and summative evaluation
- v) Age norms and grade norms (5 Marks)

b) Briefly outline the history of summative evaluation in Kenya. (7 Marks)

QUESTION FOUR – (12 MARKS)

- a) What should you bear in mind when constructing a:
 - i) A test blueprint
 - ii) A marking scheme
 - iii) A multiple-choice test
 - iv) A standardized test
 - v) A continuous assessment test
 - vi) Short answer items (11 Marks)

QUESTION FIVE – (12 MARKS)

The data below represents scores obtained in an aptitude test:

65, 54, 71, 73, 83, 34, 40, 60, 100, 94, 82, 50, 55, 45, 37, 70, 43, 64, 36, 50, 87, 67, 102, 65, 51, 78, 98, 111, 49, 57, 60, 67, 69, 74, 68, 84, 49, 72, 53, 59, 60, 77, 83, 65, 67, 76, 86, 64
--

Use the scores to:

- i) Determine the range
- ii) Determine the mean
- iii) Compute the standard deviation
- iv) Using an appropriate class width, construct a frequency distribution that includes tallies, frequencies, cumulative frequency and class midpoints.
- v) Graphically represent the data using a histogram and a frequency polygon. (12 Marks)

FORMULAE

$$1. \quad D = \frac{U - L}{N}$$

$$2. \quad rtt = \frac{2 \times rhh}{1 + rhh}$$

$$3. \quad PR = 100 - \frac{100R - 50}{N}$$

$$4. \quad Z = \frac{X - M}{SD}$$

$$5. \quad r = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}}$$

$$6. \quad IQ = 100 \left(\frac{MA}{CA} \right)$$

$$7. \quad S = R - \frac{W}{K - 1}$$