

**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATION COUNCIL OF TANZANIA
DIPLOMA IN SECONDARY EDUCATION EXAMINATION**

762

**EDUCATIONAL RESEARCH, MEASUREMENT AND
EVALUATION**

Time: 3 Hours.

Tuesday, 10th May 2005 a.m

Instructions

1. This paper consists of sections A, B and C.
2. Answer **all** questions in sections A, **two (2)** questions from section B and **one (1)** question from section C.
3. Question **11** is **compulsory**.
4. Section A carries 36 marks, section B carries 40 marks and section C carries 24 marks
5. Cellular phones and unauthorized materials are **not allowed** in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

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SECTION A (36 marks)

Answer **all** questions in this section.

1. Define the term reliability as used in educational testing.
2. Mention four characteristics of a good research instrument.
3. State four purposes of measurement in education.
4. Give four reasons for establishing test norms.
5. List three limitations of using observation as a data collection method.
6. State four advantages of using standardized tests in schools.
7. Mention four steps in preparing a table of specifications.
8. Explain four uses of statistics in educational research.
9. Give two reasons why standard deviation is considered a better measure of variability than range.

SECTION B (40 marks)

Answer two questions from this section. Question 11 is **compulsory**.

10. (a) Define construct validity.
(b) Differentiate between predictive validity and concurrent validity with examples.
11. (a) The following are the Physics test scores of 12 students: 45, 55, 60, 70, 65, 50, 75, 80, 55, 60, 85, 90.
(i) Calculate the mean score (nearest whole number).
(ii) Calculate the variance and standard deviation (nearest whole number).
(iii) Using a mean of 60 and a standard deviation of 10, standardize the scores of the student with the highest and lowest marks.
(b) Explain three reasons why a researcher might prefer using standard scores in interpreting test results.
12. A researcher plans to study the relationship between teachers' workload and students' academic performance in secondary schools.

- (a) Formulate one broad research objective and three specific objectives for this study.
 - (b) Discuss four possible sources of bias in collecting data for this research and explain how each can be minimized.
13. Critically analyze four limitations of using correlation coefficients in educational research, and explain how these limitations can be addressed.

SECTION C (24 marks)

Answer **one** question from this section.

14. The reliability of a newly developed mathematics achievement test is being questioned by examiners.
- (a) Propose four different methods that could be used to estimate its reliability, explaining the conditions under which each method is most suitable.
 - (b) Suggest four ways the test developers could improve its reliability based on the results of the reliability estimates.
15. A government education board wants to introduce national performance assessments in all primary schools. Discuss the potential benefits and challenges of implementing such assessments, providing at least four points for each.
16. Examine four key ethical considerations in conducting educational research involving children, and explain how each can be practically implemented in a Tanzanian school context.