THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
DIPLOMA IN SECONDARY EDUCATTION EXAMINATION

761 **EDUCATIONAL PSYCHOLOGY, GUIDANCE AND COUNSELLING**

Time: 3 Hours **ANSWERS** **Year: 2023**

Instructions.

1. This paper consists of sections A and B with a total of **Fourteen (14)** questions.
2. Answer **all** questions from section A and **four (4)** questions from section B.
3. Section A carries **forty (40)** marks and section B Carries **sixty (60)** marks.
4. Cellular phones are **note** allowed in the examination room.
5. Write your **examination Number** on every page of your answer booklet(s).

SECTION A (40 Marks)

Answer all questions from this section. Each question carries 4 marks.

1. Explain four usefulness of item analysis in teaching and learning process.

Item analysis helps teachers to identify which test questions are effective and which ones need improvement. By reviewing how students performed on each question, a teacher can adjust poorly constructed items or replace those that do not measure the intended skills or knowledge.

It assists in determining the difficulty level of each test item. Knowing which questions were too easy or too difficult allows teachers to balance future tests, ensuring they appropriately challenge students while remaining fair.

Item analysis also helps in detecting discriminatory power of test items. It shows how well a question differentiates between high-achieving and low-achieving students. Good items should be correctly answered by stronger students and missed by weaker ones.

Lastly, it contributes to improving future instruction. By identifying concepts where most students performed poorly, a teacher can revisit those areas, adjust teaching strategies, and provide remedial support to improve overall learning outcomes.

2. Identify the reasons for conducting an educational research in secondary schools.

Educational research helps in identifying challenges affecting teaching and learning. Through systematic investigations, schools can discover problems such as poor student performance, ineffective teaching methods, or resource shortages.

It aids in evaluating the effectiveness of teaching methods and instructional materials. Research allows schools to test new strategies and see how they impact student outcomes, making it possible to adopt the most successful approaches.

Research in secondary schools supports policy formulation and decision-making. School administrators and education authorities can rely on research findings to make informed decisions about curriculum design, staffing, and resource allocation.

It also fosters professional development for teachers. By engaging in or accessing educational research, teachers stay updated on best practices, new technologies, and innovative teaching approaches that can enhance their classroom performance.

3. Classify respective forms of evaluation from the given statements.

(i) is done at the end of a learning period to judge the total achievement of learners. ***summative evaluation***

(ii) is carried out before teaching starts to determine the learner's entry behavior and place them in suitable groups. ***placement evaluation***

(iii) is used to find out the specific weaknesses or problems a learner faces during the learning process. ***diagnostic evaluation***

(iv) is conducted continuously during teaching to check the progress of learners and give immediate feedback. ***formative evaluation***

4. Briefly analyse the four major criteria to be used in reviewing the quality of a research report.

The first criterion is clarity of objectives. A quality research report must have well-defined, specific, and achievable objectives that guide the entire investigation and make it easy to assess whether the research has met its goals.

Another important criterion is the appropriateness of methodology. The research design, sampling techniques, and data collection methods must suit the research problem and provide reliable, valid, and accurate results.

The third criterion is the quality of data analysis. A good research report presents data in a logical and systematic manner using appropriate statistical or qualitative techniques, making the findings easy to interpret and understand.

Finally, the conclusion and recommendations should be directly linked to the research findings. A quality report draws reasonable conclusions from the data and offers practical, evidence-based suggestions for improvement or future action.

5. Distinguish measurement from evaluation by using two points.

Measurement involves the process of assigning numerical values or scores to a learner's performance based on specific criteria. It focuses solely on quantifying attributes such as test scores or attendance records.

Evaluation, however, is a broader judgment process that interprets the results of measurements to determine the effectiveness, value, or quality of a learning process, program, or individual performance. It combines both qualitative and quantitative information to make decisions.

6. Provide two points that validate a good test.

A good test must be reliable, meaning it should produce consistent results when administered to the same group of students under similar conditions. If a student's ability remains unchanged, repeated testing should yield similar scores.

A good test should also be valid, accurately measuring what it is intended to measure. For example, a mathematics test should assess mathematical knowledge and skills, not reading comprehension or unrelated abilities.

7. Differentiate between qualitative and quantitative approaches by giving four points.

Qualitative approaches focus on exploring concepts, opinions, and experiences through non-numerical data such as interviews, observations, and open-ended questionnaires, while quantitative approaches rely on numerical data gathered through tests, surveys, or experiments.

In qualitative research, data is analyzed through themes, patterns, or narratives, whereas in quantitative research, analysis involves statistical techniques such as averages, percentages, and correlations.

Qualitative research often deals with small, purposefully selected samples to gain in-depth understanding, while quantitative research uses larger, randomly selected samples to ensure results can be generalized to a broader population.

The qualitative approach emphasizes depth and meaning, aiming to explain why certain behaviors or patterns occur, while the quantitative approach focuses on measuring variables and identifying relationships between them.

8. Identify the advantages and disadvantages of objective test in assessment.

One advantage of objective tests is that they are easy to administer and score. Multiple-choice, true/false, and matching items can be quickly marked, often using automated systems, ensuring consistency and saving time.

Another advantage is their ability to cover a wide range of content within a short period, allowing teachers to assess various topics and cognitive levels efficiently.

A disadvantage is that objective tests often encourage guessing, especially in multiple-choice formats, which can distort the true measure of a student's knowledge.

They also tend to focus more on lower-order cognitive skills like recall and recognition, offering limited opportunities to assess higher-order thinking such as analysis, synthesis, and evaluation.

9. Identify reasons of using observation method in collecting information for investigation.

Observation provides firsthand, real-time information about how events or behaviors occur naturally without relying on participants' self-reports, which may be biased or inaccurate.

It allows the researcher to gather detailed, descriptive data on complex behaviors, social interactions, or environmental factors that might not be captured effectively through questionnaires or interviews.

Observation helps uncover non-verbal behaviors, such as gestures, expressions, or body language, which are important in understanding attitudes, feelings, or unspoken responses during a study.

It also enables the researcher to identify discrepancies between what people say and what they actually do, providing a more accurate picture of reality in educational settings.

10. Explain four applications of cyclic type of research.

Cyclic research is used to improve teaching practices through continuous action and reflection. Teachers implement a new strategy, observe its effectiveness, and refine it repeatedly until desired outcomes are achieved.

It applies in curriculum evaluation, where educators test new curricular content, collect feedback, make adjustments, and re-implement the revised version, ensuring it meets student needs and educational goals.

In school administration, cyclic research assists in solving recurring issues such as discipline or resource allocation by identifying problems, applying interventions, and assessing outcomes before planning new actions.

Cyclic research is valuable in professional development, enabling teachers to continuously assess and refine their instructional techniques, lesson plans, and classroom management methods to enhance learning outcomes.

SECTION B (60 Marks)

Answer all questions from this section. Each question carries 15 marks.

10. A Biology teacher obtained the following results from students' weekly test. Study carefully the data in the table given and answer the questions that follow.

Students' names:	A	B	C	D	E	F	G	H	I	J
Students' scores:	20	5	13	7	18	4	12	10	17	14

(a) Determine mean and standard deviation.

To get the mean:

Mean = (Sum of all scores) ÷ (Number of students)
Mean = (20 + 5 + 13 + 7 + 18 + 4 + 12 + 10 + 17 + 14) ÷ 10
Mean = 120 ÷ 10
Mean = 12

Now, to calculate the standard deviation:

First, find the deviations from the mean (x - mean):
(20-12)=8, (5-12)=-7, (13-12)=1, (7-12)=-5, (18-12)=6, (4-12)=-8, (12-12)=0, (10-12)=-2, (17-12)=5, (14-12)=2

Then square each deviation:
$8^2=64$, $(-7)^2=49$, $1^2=1$, $(-5)^2=25$, $6^2=36$, $(-8)^2=64$, $0^2=0$, $(-2)^2=4$, $5^2=25$, $2^2=4$

Sum of squared deviations:
64+49+1+25+36+64+0+4+25+4 = 272

Variance = (Sum of squared deviations) ÷ (Number of students)
Variance = 272 ÷ 10 = 27.2

Standard deviation = $\sqrt{27.2} \approx 5.22$

(b) If the teacher standardizes the scores by adding 10 marks to every score, how can you estimate the new mean, standard deviation and the range?

When a constant value is added to every score:

- The mean increases by that value.
- The standard deviation remains unchanged because the spread of scores does not change.
- The range increases by the same value.

New mean = 12 + 10 = 22
New standard deviation = 5.22 (remains the same)
Old range = Highest score - Lowest score = 20 - 4 = 16
New range = 16 (since the spread remains the same)

(c) Comment on the mean, standard deviation and the range obtained in part (b).

The new mean increases by 10 marks, reflecting the shift in all scores equally. The standard deviation remains unchanged at 5.22 because adding a constant does not affect the spread or dispersion of the scores around the new mean. The range also stays the same at 16 since the difference between the highest and lowest values remains constant when all scores increase by the same amount.

11. Explain five issues to consider when planning for an action research.

The first issue is clearly defining the problem to be addressed. A well-identified problem ensures the research remains focused, relevant, and capable of producing practical solutions for classroom or school improvement.

Another important consideration is setting achievable and measurable objectives. Objectives should specify what the researcher hopes to achieve by the end of the study and guide the selection of appropriate research activities and tools.

Selecting suitable data collection methods is essential. The researcher should choose techniques such as observation, interviews, or questionnaires that effectively capture the necessary information while considering the context and available resources.

The timeframe of the research needs careful planning. Action research is often conducted within tight school schedules, so the researcher should set realistic deadlines for data collection, analysis, and reporting to avoid interfering with normal teaching routines.

Lastly, ensuring ethical considerations such as confidentiality, voluntary participation, and informed consent is crucial. Participants should be fully informed about the study's purpose, and their personal information should be handled responsibly.

12. Use criterion-referenced measurement to evaluate the achievement of learning by giving six points.

Criterion-referenced measurement evaluates students based on predetermined standards or objectives rather than comparing them to peers. One point is assessing whether a student can perform specific skills or demonstrate knowledge of certain concepts as outlined in the curriculum.

Another point is determining mastery of learning objectives. Students are evaluated on whether they meet minimum performance levels for each learning task, ensuring they understand essential content before progressing.

It helps identify areas where individual students struggle. Teachers can pinpoint which objectives have not been met and provide targeted remediation or support to improve learning outcomes.

Criterion-referenced tests are useful in certifying competencies. They verify whether learners possess the necessary skills or knowledge to move to the next educational level or perform a specific task.

The approach also assists in improving teaching strategies. By analyzing students' performance on specific objectives, teachers can adjust instruction methods, materials, and pacing to address areas of weakness.

Lastly, it provides clear and meaningful feedback to learners. Students know exactly which objectives they have mastered and which need further work, making learning more purposeful and focused.