THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

732 **CHEMISTRY TEACHING METHODS**

Time: 3 Hour. **2005 May, 08th Monday p.m.**

Instructions

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

SECTION A (36 marks)

Answer all questions in this section.

1. Explain four (4) purposes of using instructional objectives in Chemistry teaching.
2. Briefly describe four (4) advantages of using practical work in the teaching and learning of Chemistry.
3. Outline four (4) functions of a Chemistry syllabus in secondary school education.
4. Mention four (4) characteristics of a good teaching aid as used in the Chemistry subject.
5. Define and differentiate between:
   (a) Diagnostic test and summative test.
   (b) Achievement test and aptitude test.
6. Explain four (4) reasons why it is important to assess learners after a Chemistry lesson.
7. Briefly describe four (4) qualities of a well-constructed Chemistry test.
8. Why is it important for a Chemistry teacher to plan lessons before entering the classroom?
9. Give four (4) roles of instructional materials in the teaching and learning of Chemistry.

SECTION B (40 marks)

Answer both questions in this section.

10. As a Chemistry teacher, you are preparing to use the demonstration method to introduce the topic "Acids and Bases" to Form Two students.
    (a) State five (5) preparations you would make before the lesson.
    (b) Explain four (4) advantages and three (3) limitations of using demonstration method.
    (c) Describe three (3) classroom management techniques you would apply during the demonstration.
11. In a practical session, Form Three students carried out an experiment to investigate the effect of concentration on the rate of reaction using magnesium and hydrochloric acid.

(a) Write a brief aim for the experiment.

(b) Mention three (3) precautions to be taken during the experiment.

(c) Outline step by step how you would guide students in recording observations and plotting the reaction rate graph.

(d) Suggest how you would evaluate student understanding after the practical lesson.

SECTION C (24 marks)

Answer two (2) questions from this section.

12. Describe five (5) uses of Chemistry in modern society and show how they relate to daily life applications.

13. Discuss the major types of test items used in Chemistry assessment. Give at least two examples for each type.

14. (a) What is brainstorming as a teaching strategy?

    (b) Discuss four (4) benefits of using brainstorming in Chemistry lessons.

    (c) Explain three (3) challenges of applying this strategy in large classes.

15. Using the reaction between zinc and hydrochloric acid, explain how you would guide Form Two students to understand the concept of displacement reactions. Include the procedures, expected observations, and chemical equation.