THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

722 **EDUCATION**

Time: 3 Hour. **ANSWERS** **Year: 2016**

Instructions

1. This paper consists of **seven (7)** questions.
2. Answer **five (5)** questions only.
3. Each question carries **twenty (20)** marks.
4. All communication devices and any unauthorised materials are **not** allowed in the examination room
5. Write your **Examination Number** on every page of your answer booklet(s)

1. (a) Define the term "curriculum implementation" in the context of technical education.

Curriculum implementation in technical education refers to the process through which the designed curriculum is put into action in teaching and learning activities. It involves the actual delivery of content, use of resources, application of methods, and interaction between teachers and students to achieve the intended learning outcomes.

(b) Identify four key stakeholders involved in curriculum implementation in vocational institutions.

Teachers, who are the direct facilitators of learning in classrooms and workshops.

Students, who are the recipients and participants in the curriculum activities.

Administrators, such as heads of departments and principals, who oversee curriculum delivery and resource management.

Employers and industry representatives, who influence curriculum relevance and alignment with job market needs.

(c) Describe three roles played by teachers during curriculum implementation.

Teachers interpret and translate curriculum documents into practical lesson plans and activities.

They select and adapt appropriate teaching methods and instructional materials to suit learner needs.

They assess learner performance and provide feedback, contributing to the continuous improvement of teaching and learning.

(d) Give four common barriers to effective curriculum implementation in technical colleges.

Inadequate teaching and learning materials, especially for practical training.

Shortage of qualified and experienced technical instructors.

Outdated or rigid curriculum content that does not reflect industry needs.

Poor infrastructure such as limited workshop space or faulty equipment.

2. (a) Explain the meaning of the term "Bloom's Taxonomy".

Bloom's Taxonomy is a hierarchical classification system of learning objectives developed by Benjamin Bloom. It categorizes cognitive learning into six levels, ranging from basic recall of facts to complex evaluation and creation, guiding educators in formulating objectives and assessments.

(b) List the six levels of Bloom's Taxonomy in the cognitive domain.

Knowledge (Remembering)
Comprehension (Understanding)
Application
Analysis
Synthesis (Creating)
Evaluation

(c) For each of the following lesson objectives, identify the correct level of Bloom's cognitive domain:

(i) "State the main components of an internal combustion engine." – *Knowledge (Remembering)*

(ii) "Compare the functions of DC and AC motors." – *Analysis*

(iii) "Design a simple electrical circuit for a three-room house." – *Synthesis (Creating)*

3. (a) What is a training needs assessment?

Training needs assessment is the systematic process of identifying the skills, knowledge, and attitudes required by individuals or groups to perform effectively in a job or occupation. It helps to determine gaps between current capabilities and desired competencies.

(b) Explain the importance of training needs assessment in curriculum development.

It ensures that the curriculum addresses real workplace requirements and job roles.

It helps in designing relevant learning content that meets learner and industry expectations.

It prevents wastage of time and resources on irrelevant or outdated topics.

(c) Using your area of specialization, provide three examples of needs that may arise and how they can influence curriculum content.

In mechanical fitting, a need may arise to include modern CNC machining due to automation trends.

In electrical installation, demand for solar energy systems may lead to inclusion of renewable energy modules.

In automotive technology, the shift to hybrid and electric vehicles may require updating content on engine systems.

(d) Briefly outline the main stages of conducting a training needs assessment.

Identifying the target group and job context.
Collecting data through interviews, observation, or surveys.
Analyzing the gaps between current and desired performance.
Recommending training programs based on identified needs.
Reviewing and validating findings with relevant stakeholders.

4. (i) Identify two strengths and three weaknesses of this lesson plan.

Strengths:
The specific objective is clearly stated with observable behavior.
Relevant tools and materials are listed, showing preparedness.

Weaknesses:
Assessment method (oral questioning) is not suitable for practical skills.
There's no indication of how group work will be managed or evaluated.
Duration allocation lacks segmentation for different activities.

(ii) Suggest two ways the assessment method can be improved.

Incorporate performance-based tasks where learners demonstrate correct tool usage.

Use a checklist or rubric to evaluate accuracy, safety, and technique.

(iii) Give three reasons why practical skills must be assessed through performance-based methods.

They provide direct evidence of a learner's ability to perform a task.

They promote skill mastery by reinforcing actual performance rather than theory.

They help identify specific areas where learners need additional support or correction.

5. (a) What is the meaning of the term "behavioral objective"?

A behavioral objective is a statement that clearly describes what a learner will be able to do after instruction, using observable and measurable actions. It focuses on learner outcomes rather than teacher intentions.

(b) State four advantages of using behavioral objectives in lesson planning.

They clarify expectations for both teachers and learners.

They provide a basis for selecting appropriate teaching methods.

They guide the development of assessments aligned with learning outcomes.

They help measure whether learning has occurred effectively.

(c) Convert the following general objective into three well-written specific behavioral objectives: "Learners will understand how to use a multimeter."

At the end of the lesson, the learner will be able to:
(i) Identify the main parts of a digital multimeter.
(ii) Measure voltage across a DC power supply using a multimeter.
(iii) Set the multimeter correctly to test continuity in a wire.

6. (a) Explain the difference between formative feedback and summative feedback.

Formative feedback is given during the learning process to guide improvement and support learning. Summative feedback is provided at the end of a unit or course to evaluate overall performance and assign grades.

(b) State four ways a technical teacher can use feedback to improve student learning.

By correcting errors immediately during practice to prevent bad habits.

By reinforcing correct performance to build learner confidence.

By identifying gaps and adjusting teaching methods accordingly.

By encouraging self-assessment and goal setting in learners.

(c) Mention three challenges teachers face in giving timely and effective feedback in practical subjects.

Limited time during busy workshop sessions to observe every learner.

Large class sizes make individual attention difficult.

Lack of structured tools such as rubrics to provide detailed performance feedback.

(d) Describe how peer feedback can be effectively implemented in a workshop environment.

Students can observe each other during tasks and complete feedback checklists.

The teacher can train learners to give constructive and respectful feedback.

Pairs or small groups can reflect together on performance using guided questions.

7. (a) Define "habit formation" in the context of vocational education.

Habit formation in vocational education refers to the process by which learners develop consistent and automatic patterns of behavior or actions in performing technical tasks through repeated practice and reinforcement.

(b) List four factors that influence habit formation in technical training.

Frequency and consistency of practice.
Quality of initial instruction and demonstration.
Feedback received during early stages of learning.
Learning environment and peer influence.

(c) Suggest three strategies teachers can use to break learners' bad workshop habits.

Identify and explain the consequences of the poor habit clearly.

Provide regular correction and alternative behavior demonstrations.

Create a reward system for consistent improvement and desired habits.

(d) Explain two benefits of habit automation in skill mastery.

It increases efficiency and speed by reducing mental effort during routine tasks.

It promotes safety and accuracy by reducing the likelihood of errors due to inattention.