THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL

DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

722 **EDUCATION**

Time: 3 Hour. **ANSWERS** **Year: 2020**

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" as used in Technical Education.

A curriculum in Technical Education refers to a structured set of learning experiences, instructional materials, assessment procedures, and content guidelines designed to equip learners with specific technical knowledge, practical skills, attitudes, and competencies necessary for a given trade or profession. It includes both theoretical instruction and practical training tailored to meet industry standards.

(b) State four major characteristics of a curriculum in vocational and technical training.

A vocational curriculum is competency-based, meaning it focuses on the demonstration of skills and performance rather than only theoretical knowledge.

It is industry-driven, ensuring that the content and skills taught are aligned with current labor market needs and technological advancements.

It is flexible, allowing adjustments based on emerging trends, learners' pace, and specific trade requirements.

It integrates both theory and hands-on practice, providing a balanced approach that enhances employability and real-world application.

(c) Differentiate between official curriculum and hidden curriculum.

The official curriculum refers to the formal and documented content, objectives, and instructional plans prescribed by educational authorities and institutions for teaching. It includes syllabi, lesson plans, and officially approved textbooks.

The hidden curriculum refers to the unintended lessons, values, behaviors, and norms that students learn indirectly through the school environment, teacher attitudes, and institutional culture, such as discipline, teamwork, or punctuality.

(d) Briefly describe four challenges that hinder effective implementation of the curriculum in Technical Institutions.

Lack of adequate training materials and tools often prevents students from acquiring hands-on experience necessary for technical mastery.

Insufficiently trained or unqualified instructors may fail to deliver the curriculum effectively, especially practical components.

Outdated curriculum content that does not reflect current industry standards can result in a mismatch between training and job market needs.

Poor infrastructure and overcrowded workshops limit opportunities for individual practice and proper student engagement.

2. (a) What is lesson planning?

Lesson planning is the process of organizing instructional activities, learning objectives, materials, assessment methods, and timing into a written plan that guides the teaching process. It ensures that teaching is purposeful, coherent, and aligned with curriculum goals.

(b) Mention four importance of lesson planning in technical teacher preparation.

It provides a clear roadmap that guides the teacher through each stage of instruction, ensuring all topics are covered systematically.

It helps in time management by allocating appropriate time to theory and practical sessions.

It allows the teacher to prepare suitable teaching aids and tools in advance, which improves the quality of instruction.

It promotes confidence and reduces uncertainty during teaching, allowing the teacher to anticipate challenges and solutions.

(c) Describe five components that should be included in a standard lesson plan in Technical Education.

General objectives that state the broad goals the lesson aims to achieve.

Specific objectives that outline what the students should be able to do by the end of the lesson.

Teaching and learning materials required to facilitate the lesson, such as machines, charts, or tools.

Instructional procedures or steps that guide the teacher through the teaching and learning activities.

Evaluation methods or assessment tools to determine whether learning objectives were achieved.

3. (a) What is Competency-Based Education and Training (CBET)?

CBET is a training approach that emphasizes the acquisition and demonstration of specific skills, knowledge, and attitudes required for competent job performance. Learners progress by demonstrating mastery of clearly defined competencies rather than completing fixed time periods.

(b) Outline four principles of CBET.

Training is based on industry-defined competencies and job functions.

Learning is individualized and flexible to accommodate different paces and learning styles.

Assessment is performance-based, focusing on what learners can do rather than what they know.

Certification is awarded based on demonstrated competence, not time spent in training.

(c) Explain three advantages and three limitations of CBET in vocational training.

Advantages:
CBET improves employability since it is aligned with actual job roles and industry requirements.
It ensures learners master each competency before progressing, enhancing skill acquisition.
The flexible structure supports learners with varying learning speeds and backgrounds.

Limitations:
It requires highly trained instructors who understand competency design and assessment.
Developing competency-based materials and assessments is time-consuming and resource-intensive.
It may neglect broader knowledge or critical thinking if the focus is only on task performance.

4. (a) Define the term "instructional media".

Instructional media refers to the various physical and digital tools, resources, and materials used to facilitate and enhance teaching and learning processes. In Technical Education, this includes charts, models, videos, machines, simulators, and e-learning platforms.

(b) Mention four types of instructional media used in Technical Education.

Projected media such as PowerPoint presentations and slides.

Printed media like manuals, posters, and textbooks.

Audio-visual media including videos and animations.

Demonstration tools such as real machines, models, or mock-ups.

(c) Describe five roles of instructional media in enhancing teaching and learning in workshops.

They simplify complex concepts through visual representation, making content more understandable.

They support multi-sensory learning, engaging students through sight, sound, and touch.

They help demonstrate procedures and processes that might be unsafe or expensive to repeat.

They increase student motivation and interest, particularly when learning abstract or theoretical content.

They provide consistent information, reducing the chances of misinterpretation or instructor bias.

5. (a) Explain the term "educational psychology" and its relevance to teaching.

Educational psychology is the study of how people learn in educational settings, the effectiveness of educational interventions, and the psychology of teaching. It helps teachers understand student behavior, learning processes, motivation, and development to enhance teaching effectiveness.

(b) Identify four learning theories relevant in Technical Education.

Behaviorism
Cognitivism
Constructivism
Social Learning Theory

(c) For each learning theory in (b), briefly describe its application in classroom instruction.

Behaviorism: Learning is reinforced through repetition, practice, and positive reinforcement. Teachers use drills and immediate feedback to shape behavior.

Cognitivism: Teachers focus on mental processes like memory and understanding, using tools like concept mapping and guided discovery.

Constructivism: Learning is student-centered, where learners actively construct their own understanding through problem-solving and experimentation.

Social Learning Theory: Learning occurs through observation and imitation. Teachers act as role models and use peer demonstrations in workshops.

6. (a) Define the term "assessment" in the context of Technical Education.

Assessment is the systematic process of collecting, analyzing, and interpreting evidence to determine learners' achievement of knowledge, skills, and competencies in Technical Education.

(b) Differentiate between formative and summative assessment.

Formative assessment is conducted during the learning process to provide feedback for improvement and guide teaching.

Summative assessment is done at the end of a learning unit or course to evaluate overall learner achievement and assign grades or certification.

(c) List five principles of good assessment in Technical Training.

It should be valid, measuring the intended competencies.
It should be reliable, producing consistent results.
It should be fair, giving all learners equal opportunity to succeed.
It should be practical and feasible to implement.
It should provide timely and useful feedback to guide improvement.

(d) Describe four tools commonly used in assessment of practical skills.

Checklist: A tool to mark observed tasks or behaviors during performance.
Rating scale: Measures the quality of skill demonstration.
Practical test: Requires learners to perform real tasks under supervision.
Portfolio: A collection of student work showing development over time.

7. (a) Define habit and skill as applied in Technical Education.

A habit is a repetitive behavior that becomes automatic with practice, such as cleaning tools after use.

A skill is the learned ability to perform a task with precision, speed, and efficiency, such as welding or assembling parts.

(b) With three points, show how the process of forming a habit differs from that of forming a skill.

Habits form through repetition and reinforcement of behavior without conscious thought, while skills require deliberate practice and guidance.

Habits often do not require feedback once formed, but skill development depends on regular correction and improvement.

Habits are often general behaviors, while skills are task-specific and measurable.

(c) List four stages in learning a motor skill.

Cognitive stage
Associative stage
Autonomous stage
Retention and transfer stage

(d) Explain how a technical teacher can guide students to master a skill effectively.

By demonstrating the correct procedure clearly and slowly for students to observe.

By providing guided practice with immediate feedback to correct errors early.

By allowing independent practice under supervision to build confidence.

By assessing performance and giving constructive feedback for improvement.