

MODULE II

CIVIL ENGINEERING LEVEL 6

CON/OS/CEN/CC/09/6/MB

Apply Workshop Technology Practices

March/April 2026



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Attempt **ALL** the questions in section A and any **THREE** questions in section B.
4. Candidates are provided with a separate answer booklet
5. **DO NOT** write on this question paper.

This paper consists of FOUR (4) printed pages

Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Answer ALL the questions in this section.

1. In masonry production, workers use different hand tools to shape, cut, and assemble bricks or blocks efficiently. List FIVE masonry hand tools most commonly used in workshops.
(5 Marks)
2. Safety is critical to prevent injuries and ensure smooth workflow in carpentry workshops. Highlight FOUR safety requirements that every worker must observe while performing carpentry tasks.
(4 Marks)
3. Plumbing work requires precise handling of various machines to cut, join, and install pipes efficiently. List THREE plumbing power tools that are frequently used in the workshop.
(3 Marks)
4. Mechanical workshops involve the use of tools to assemble, repair, and maintain engines or other components. Outline FOUR mechanical hand tools commonly used during engine maintenance tasks.
(4 Marks)
5. Electrical workshops involve both conventional hand tools and modern power tools for installation and repairs. Using THREE examples differentiate between conventional hand tools and power tools used in electrical workshops.
(6 Marks)
6. Proper maintenance ensures tools remain safe, effective and durable for repeated use in carpentry operations. List THREE practices to maintain carpentry tools according to manufacturer specifications.
(3 Marks)
7. Understanding engine components helps technicians perform repairs and maintenance accurately. Explain THREE major diesel engine components
(6 Marks)
8. Safety measures prevent accidents and ensure smooth operations when handling mechanical equipment like water pumps. Outline THREE general safety precautions observed when operating water pumps.
(3 Marks)
9. Plumbing work requires careful selection of tools for measuring, cutting and fixing pipes and fittings. Explain TWO plumbing hand tools commonly used in construction and repair in plumbing works.
(4 Marks)
10. Knowledge of power supply sources ensures safe and effective electrical installations. Highlight TWO types of power supply sources that are identified and used in electrical workshops.
(2 Marks)

SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

11. A construction firm asked trainees to build a small brick wall for a classroom project. They must work safely while using tools to produce quality masonry units.
- a. Describe THREE safety measures that should be observed in the masonry workshop. (6 Marks)
 - b. Discuss FIVE masonry power tools and their specific functions in construction work. (10 Marks)
 - c. Explain TWO the maintenance procedures for masonry tools to ensure long-term durability and safety. (4 Marks)
12. In a simulated plumbing project for installing a hostel water system, trainees must handle tools and pipes carefully to prevent damage and ensure proper installation.
- a. Describe THREE plumbing hand tools used when performing plumbing tasks in the workshop. (6 Marks)
 - b. Explain THREE ways plumbing power tools are used safely to achieve efficiency (6 Marks)
 - c. Discuss FOUR maintenance practices for plumbing tools as per manufacturer specifications to ensure durability. (8 Marks)
13. A carpentry project requires trainees to construct a wooden bench. They must use both hand and power tools safely and maintain them for quality results.
- a. Differentiate between carpentry hand tools and power tools. (6 Marks)
 - b. Outline the procedure of maintaining carpentry tools according to manufacturer specifications. (8 Marks)
 - c. Discuss TWO importance of observing workshop safety while performing carpentry tasks. (4 Marks)
14. Pumps are essential machines in civil engineering works such as water supply systems, irrigation schemes, drainage, and construction site dewatering.
- a. Explain the working principle of a centrifugal pump commonly used in civil engineering applications. (8 Marks)

- b. Describe FOUR applications of pumps in civil engineering and road construction works. (8 Marks)
- c. Explain TWO factors that should be considered when selecting a pump for a construction project. (4 Marks)

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