

071306T4EEN

ELECTRICAL ENGINEERING (POWER OPTION) LEVEL 6

ENG/OS/PO/CC/02/6 Printed By: Technical And Vocational College

Apply workshop processes Date: 26.11.2025 02:56 PM

November/December 2025

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

WRITTEN ASSESSMENT

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Time: 3 HOURS

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INSTRUCTIONS TO CANDIDATE

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

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sists of FOUR (4) printed pages

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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)

Attempt ALL the questions in this section

1. In industrial electrical protection against electric shock is critical for safeguarding workers and equipment. Name FOUR safety devices that can prevent electrical shock in such settings (4 marks)
2. A well-organized and equipped workshop is essential for carrying out electrical tasks efficiently and safely. Define the term workshop (2 marks)
3. Personal protective equipment (PPE) plays a vital role in ensuring the safety of workers when handling electrical tools and installations. State FOUR types of personal protective equipment. (4 marks)
4. Selecting the right PPE requires consideration of several factors to ensure maximum protection and comfort for the user. State FOUR factors that should be considered when selecting PPE. (4 marks)
5. Electrical workshops are prone to accidents such as cuts, burns, and electric shocks, making first aid kits an essential requirement. List FOUR items that a first aid kit must have. (4 marks)
6. Safety and efficiency in electrical workshops depend on strict adherence to established rules and guidelines. State FOUR workshop rules. (4 marks)
7. Identify FOUR pieces of information that should be recorded in an equipment service logbook. (4 marks)
8. In workshop safety and accident management, it is important to understand the emergency c.a.r.e.g.i.v.e.n.a.t the scene of an accident. Distinguish between first aid and first aider (4 marks)
9. Electrical and electronic instruments must be accurate to provide reliable results during testing, installation, and maintenance. Calibration ensures that these instruments perform within acceptable limits. State purposes of calibrating instruments (3 marks)
10. Electric shock can cause a wide range of injuries, from minor burns to fatal cardiac arrest. Write FOUR factors that determine the severity of an electric shock injury (4 marks)

SECTION B (60 MARKS)

Attempt Any THREE Questions in This Section

12.

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(a) In electrical workshops, different tools are designed for specific functions that make electrical tasks easier, safer, and more efficient. Understanding their uses is vital for proper application and safety. Describe the functions of SIX tools used in the electrical workshop. (12 marks)

(b) In electrical workshops and industrial environments, different types of fires may occur depending on the source. Each class of fire requires a specific type of extinguisher for safe and effective control. Discuss any FOUR different classes of fires and identify which type of fire extinguisher is suitable for each class. (8 marks)

13.

(a) Accidents and injuries are common in workshops and workplaces, and immediate response is critical. First aid is administered before professional medical care is available. Explain FOUR reasons for administering first aid. (8 marks)

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(b) To ensure that electrical tools remain reliable, safe, and functional, proper care and maintenance must be observed. Neglecting routine maintenance may result in damage, accidents, or shortened tool lifespan. Discuss SIX good routines of maintenance that can be carried out to ensure electrical tools are always in good condition. (12 marks)

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14.

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(a) Tools and equipment are grouped into categories to make their selection and use easier during training and practical work. Explain major classifications of workshop tools and equipment. (10 marks)

(b) Clean and well-maintained benches enhance safety, improve efficiency, and prolong the life of workshop equipment. Keeping clean and functional workshop benches. (10 marks)

15.

(a) Management is a critical policy in planning and running workshops. Improve handling of waste such as scrap metals, wires, insulation materials, oils, and

chemical residues can lead to hazards and inefficiencies. Explain FIVE reasons why proper waste disposal is necessary in a workshop setup. (10 marks)

(b) Poor planning of workshop can result in congestion, accidents, and wasted resources. Discuss FIVE factors that should be considered when setting up a workshop layout. (10 marks)