

071304T4EIN

ELECTRICAL INSTALLATION LEVEL 4

ENG/OS/EI/CR/01/4/A

Perform Electrical Installation

March/April 2025



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

WRITTEN ASSESSMENT

Time: 2 HOURS

INSTRUCTIONS TO CANDIDATE

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

This paper consists of FIVE (5) 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 (10 MARKS)

Attempt all questions in this section. Each question carries one mark

1. After installing an electrical system, a number of tests are commonly performed. Identify which one of the following is not one of the tests
 - A. Earth resistance test
 - B. Insulation resistance test
 - C. Maintenance test
 - D. Polarity test
2. In a staircase lighting, it is desired that a person going up the stairs should be able to switch ON and after reaching upstairs should be able to switch OFF the light. This type of control of lamps used is known as?
 - A. Two way switching
 - B. One way switching
 - C. Master switching
 - D. Main switching
3. _____ is the prompt action taken to relieve unnecessary suffering, prevent permanent disability and even
 - A. Life saver
 - B. Ambulance
 - C. Resuscitation
 - D. First Aid
4. The additional sheathing added to protect the insulated conductor from mechanical damage is called _____
 - A. Cable sheathing
 - B. Cable insulation
 - C. Armoring
 - D. Cable coating
5. Conductors are materials that allow current to pass through them. Which of the following is a conductor?
 - A. Glass
 - B. Aluminum

- C. Rubber
 - D. Paper
6. As an electrician, it is essential that you have your tools. What type of tool is used to remove insulation from an electrical cable?
- A. Screw driver
 - B. Hacksaw blade
 - C. Wire stripper
 - D. Hammer
7. The primary purpose of a fuse in an electric circuit is to:
- A. Provide grounding
 - B. Protect the circuit
 - C. Store electrical energy
 - D. Provide grounding
8. Earthing an electrical system is mandatory for the approval of the use of the system. Which of the following is the purpose for earthing?
- A. To increase the resistance of the earth
 - B. To reduce the current flow
 - C. To improve efficiency of the electrical appliances.
 - D. To provide a safe pathway for fault currents to flow to the ground
9. Which one of the following equipment at the intake position belong to the power supply authority?
- A. Energy Meter
 - B. Circuit breaker
 - C. Distribution board
 - D. Consumer control unit
10. In a working place, it is a requirement to have appropriate attires for the job. Which of the following is most appropriate to wear while working with sharp objects?
- A. Facemask
 - B. Googles
 - C. Overall
 - D. Gloves

SECTION B (40 MARKS)

Attempt ALL questions in this section.

11. a) When carrying out an installation, different wiring systems can be used depending on several factors. Define the term ‘wiring system ‘. (2 marks)
- b) As an electrical installation technician, when choosing a wiring system for a given project, State THREE factors you would consider (3 marks)
12. IEE regulations guide on how to perform an installation to the set standards. List FOUR IEE regulations concerning conduits wiring system (4 marks)
13. Electrical components have unique symbols accepted internationally. Draw the symbols for the following electrical devices (3 marks)
- i. One gang two-way switch
 - ii. Intermediate switch
 - iii. Switched socket outlet
14. Fuses and circuit breakers are some of the protective devices used in electrical installation. List THREE reasons why protective devices are essential in an electrical installation. (3 marks)
15. Cables comprise of different of the following parts (3 marks)
- i. Conductor
 - ii. Insulation
 - iii. Sheath
16. In a building, different electrical accessories are to be installed according to their respective standard heights. What is the standard height for the following accessories above the finished floor level (2 marks)
- i. Socket
 - ii. Switch
17. Kenya Power Company has prepared a seminar to enlighten electricians within your town on the standard methods of performing electrical installation. You have been given an opportunity to present methods of connecting socket outlets. With the aid of well labelled wiring diagram, differentiate between a ring and radial circuits each with four socket outlets (7 marks)

18. Study the table and fill the gaps appropriately.

	Name of tool	Function of tools
i.	_____	Used to make threads on metal conduits
ii.	Bradawl	_____
iii.	Steel tape draw wire	_____
iv.	_____	Used to test presence of flow of current in a circuit
v.	Spirit level	_____

19. A client intends to buy cables for an electrical installation work. What is the standard size of cable you can recommend the client to buy for the following final circuits

- i. Socket outlets (1 mark)
- ii. lighting in domestic installation (1 mark)

20. A fluorescent lamp you previously installed does not light at all. State THREE possible causes of this. (3 marks)

21. In a working place, common accidents may occur. Name THREE main causes of accidents (3 marks)