

061906T4TEL

TELECOMMUNICATION ENGINEERING LEVEL 6

ENG/CU/TLE/CR/08/6/A

Install Communication Equipment

March/April 2025



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

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. The paper consists of **TWO** sections: **A** and **B**.
2. Marks for each question are indicated in the brackets.
3. Candidates are provided with a separate answer booklet.
4. **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.

11 JUL 2025

(31)

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SECTION A (40 MARKS)

Answer ALL the questions in this section.

1. State TWO factors to consider when conducting site survey for installation of a communication equipment that dictates the site survey approach. (2marks)
2. Outline THREE environmental factors that a technician should take into consideration before installing a communication equipment. (3marks)
3. List THREE tools necessary for a technician when measuring site dimensions accurately for telecommunication equipment installation. (3marks)
4. Outline FOUR safety risks encountered during site surveys for telecommunication installations. (4marks)
5. Explain the operation principle of a TV camera. (3marks)
6. As a technician, outline THREE ways in which you can ensure that the manufacturer's manual is well interpreted before installing a telecommunication equipment. (3marks)
7. A communication channel has a capacity of 50Mbps and the bandwidth of the channel is 5MHz. find the signal-to-noise ratio required in order to achieve the specified capacity. (3marks)
8. State THREE instances where a telecommunication system is critical in the operations of modern businesses. (3marks)
9. Outline THREE advantages of using a Digital system over an Analog system in a Telecommunication systems. (3marks)
10. When installing a communication equipment, list TWO reasons why it is important to identify the correct installation tools for assembling the given communication device. (2marks)
11. List THREE manufacturer's warranty elements that a technician should take into consideration when purchasing a communication equipment. (3marks)
12. Highlight THREE clients' requirements that a technician would consider when installing a communication equipment. (3marks)
13. State THREE advantages of using the 5G network system trend in the modern telecommunication. (3marks)
14. Calculate power rating of a 240V Communication equipment that takes in a current of 10A. (2marks)

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SECTION B (60 MARKS)

Answer Any **THREE** Questions in This Section

15.

- a) Explain FOUR types of tests that are performed during commissioning of telecommunication equipment. (8marks)
- b) Describe THREE steps that should be followed by a technician when performing a power-on-self-test (POST) for telecommunication equipment. (6marks)
- c) Explain THREE requirements that must be met by a hardware equipment power-on-self-test. (6marks)

16.

- a) A group of technicians is contracted to install a telecommunication network for an upgrade in a medium town setup, explain THREE advantages of VSAT (Very Small Aperture Terminal) as the most preferred option for the Network system. (6marks)
- b) Explain THREE safety procedures that you will employ as a technician when conducting installation of a Wi-Fi network at an institution according to OSHA (6marks)
- c) Explain FOUR importance of preparing an equipment installation report according to an organizations policy in telecommunication and communications systems. (8marks)

17.

- a) Explain THREE EHS (Environmental Health and Safety) regulations that should be observed when installing a telecommunication equipment. (6marks)
- b) Describe FOUR roles of Communication Authority of Kenya (CAK) in the Kenya's telecommunication industry. (8marks)
- c) Explain THREE steps that should be followed in disposal of electronic waste. (6marks)

18.

- a) Explain THREE reasons of having warranty documents of a telecommunication equipment. (6marks)
- b) Describe FOUR roles of effective documentation management in ensuring long-term operational success and system reliability in telecommunication projects. (8marks)

- c) You have been contracted by your institution to install a Wi-Fi network at your institution for staff members, outline the procedure you will employ to implement the project. (6marks)



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