

061005T4ICT

ICT TECHNICIAN LEVEL 5

IT/OS/ICT/CR/1/5

Perform Computer Networking

March/April 2025



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

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATE

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

This paper consists of THREE (3) 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. Define the following terms as used in computer networking.
 - i. Signal Attenuation
 - ii. Protocol
 - iii. Subnetting
 - iv. Access Point (4 Marks)
2. Differentiate between a router and a switch as used in networking. (2 Marks)
3. Differentiate between a Straight-through cable and crossover cable as used in networking as network transmission media. (2 Marks)
4. List FOUR roles of the Network interface card. (4 Marks)
5. Outline FIVE factors that one should consider when selecting an internet service provider (ISP). (5 Marks)
6. List any FOUR categories of networks based on their size and geographical reach. (4 Marks)
7. ~~Distinguish between~~ (2 Marks)
8. ~~Distinguish between~~ physical topology of a network giving an example in each case. (4 Marks)
9. List FIVE factors that should be considered while selecting computer network topology. (5 Marks)
10. Outline THREE advantages of setting up a wireless network for a home network as opposed to a cabled or wired network. (3 Marks)
11. Outline THREE reasons why network monitoring is necessary to an organization. (3 Marks)
12. State any TWO benefits of network testing plans. (2 Marks)

SECTION B (60 MARKS)***Answer Any THREE Questions in This Section***

13.

- a. Explain FIVE factors that a Network administrator should considered before purchasing a network equipment. (10 Marks)
- b. Jarison has been hired by Uptime Connections Limited as a network administrator. He has been mandated by his immediate supervisor to design a new physical topology for the company. With the aid of diagrams, explain FIVE types of topologies that Jarison would have to choose from. (10 Marks)

14.

- a. Discuss FIVE major functions of the network layer of the OSI model. (10 Marks)
- b. Explain FIVE benefits of implementing networks using fiber optic cables over other copper media. (10 Marks)

15.

- a. Smith runs a small business with 10 computer devices. He seeks to know what type of IP addresses he should use to assign to his devices.
 - i. Explain to Smith (4 Marks)
 - ii. Advise him on what type of IP address he should use and justify. (4 Marks)
- b. The county government of Maji Mazuri intends to install a computer network to the newly constructed Governor's office. Explain FIVE network devices they could use to have the office networked. (10 Marks)

16.

- a. Explain FIVE benefits that an organization would derive by implementing computer network. (10 Marks)
- b. With the aid of a diagram, describe the TCP/IP model. (10 Marks)