

061006T4ICT

ICT TECHNICIAN LEVEL 6

IT/OS/ICT/CR/01/6

Perform Computer Networking

March/April 2025



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

WRITTEN ASSESSMENT

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 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 (40 Marks)

Answer ALL questions from this section.

1. A company is in the process of setting up a local area network. Explain TWO characteristics of this type of network. (4 Marks)
2. Figure 1 shows a cable used in computer network. Use it to answer the questions that follow.

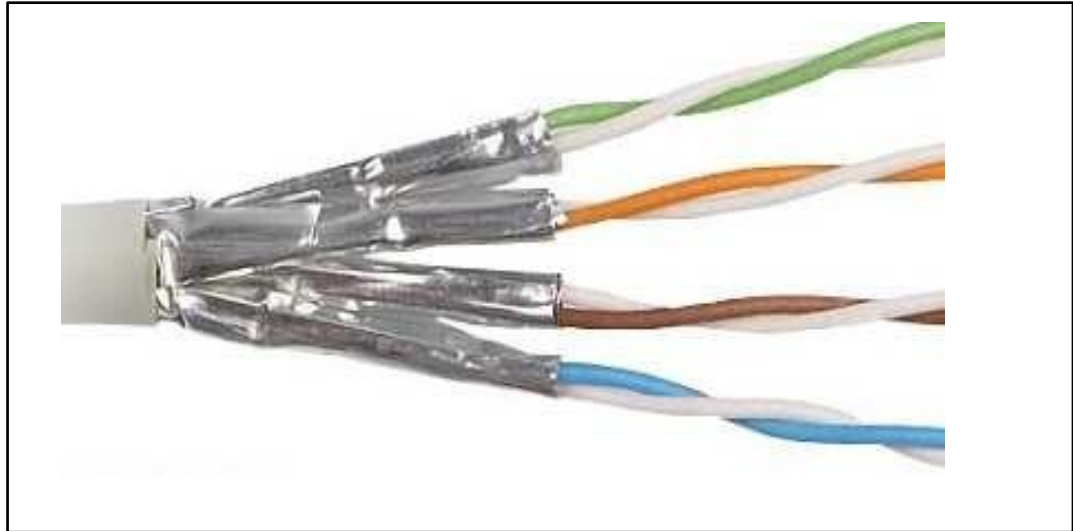


Figure 1

3. Identify the cable depicted in the figure. (2 Marks)
4. State TWO benefits of using this cable. (2 Marks)
5. A technician used a coaxial cable in a computer network. Outline FOUR advantages of using this type of cable. (4 Marks)
6. TCP/IP is a protocol used on the internet to let computers and other devices send and receive data. Explain TWO challenges of this protocol. (4 Marks)
7. Define the following terms as used in networking
 - a) Network. (2 Marks)
 - b) Topology (2 Marks)
8. A company has been experiencing external threats in their network. Outline FOUR examples of these threats. (4 Marks)

9. A network administrator is in the process of monitoring the network connectivity and performance. Highlight FOUR software that she used during this activity.
(4 Marks)
10. In order to help improve network performance, security and reliability network corrective measures are employed in a network. Outline FOUR such measures.
(4 Marks)
11. A technician decided to use a wireless connection media while implementing a network infrastructure for an organization. Explain TWO benefits the organization will achieve from this type of communication media.
(4 Marks)
12. A server is an essential component when setting up a network. State FOUR functions of a server in the network.
(4 Marks)

SECTION B (60 Marks)

Answer Any THREE Questions in this section.

13.

- a) John set up a network for a company and needed to test its performance:
- i) Explain FOUR items he should include in the network test plan
(8 Marks)
 - ii) Describe THREE network components that will be required during the testing.
(6 Marks)
- b) Figure 2 shows a network topology. Use it to answer the questions that follow:

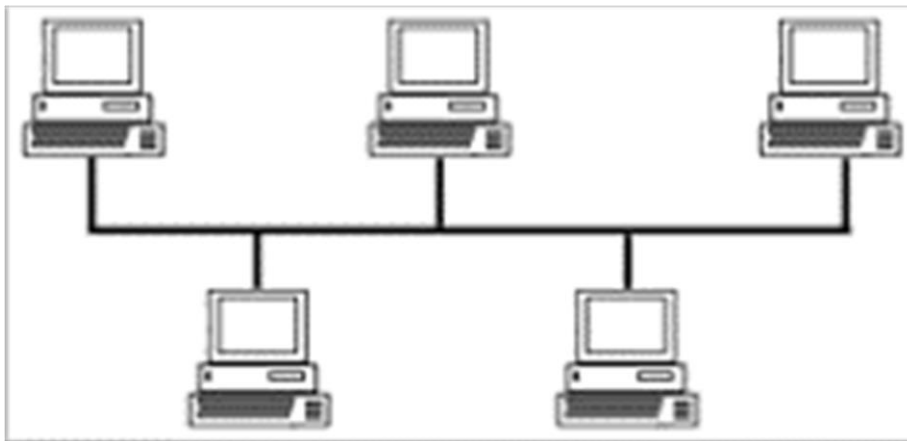


Figure 2

- i) Describe the type of network topology.
(2 Marks)
 - ii) Elaborate TWO advantages of the topology described in i).above.
(4 Marks)
- 14.
- a) OSI model describes how information from a software application in one computer moves through a physical medium to the software application in another computer. Describe the first FIVE layers of this OSI model. (10 Marks)
- b) After conducting a network test, a college network test team realized that the network was vulnerable to threats due to improper network security implementation. Describe THREE benefits the college will obtain by implementing proper network security policies
(6 Marks)
- c) Explain TWO characteristics of a hybrid network topology.
(4 Marks)

15.

- a) A network supervisor informed you to prepare a network maintenance schedule. Describe FOUR benefits of this document in serving the planned activity (8 Marks)
- b) Describe FOUR functions of the network operating system that aids in successful configuration of a network infrastructure. (8 Marks)
- c) Outline FOUR benefits of using a metropolitan area network (MAN). (4 Marks)

16.

- a. A network engineer assigns subnet masks to various devices while configuring the IP address. Explain FOUR types of subnet masks that he can use to ensure that all devices are placed in the same network. (8 Marks)
- b. Intrusion detection system (IDS) are installed in a network to protect the network from various security threats. Explain FOUR significances of installing such a system. (8 Marks)
- c. Figure 3 show a computer port. Use it to answer the questions that follow.



- i) Identify the computer port shown in the figure. (1 Mark)
- ii) List THREE advantages of an Ethernet cable. (3 Marks)