

061005T4ICT
ICT TECHNICIAN LEVEL5
IT/OS/ICT/CR/1/5
PERFORM COMPUTER NETWORKING
July /August 2024



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

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. This paper consists of TWO sections: A and B
2. Answer ALL questions in section A and THREE questions in section B.
3. Marks for each question are indicated in the brackets.
4. 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 the questions in his section.

1. Computer networking is a vast and dynamic field that involves the interconnection of devices to share resources and communicate efficiently. Explain the following terms. (4 Marks)
 - i. Network
 - ii. Router
 - iii. Link
 - iv. Bandwidth
2. Emmanuel, a network technician at KALRO has been sent to buy tools for setting up a new network. List FOUR tools he will purchase. (4Marks)
3. Computer network connections are key aspect in networking. State TWO ways in which network devices can be connected giving examples in each case. (4Marks)
4. Describe TWO features of each of the following types of Local Area Networks. (4 Marks)
 - i. Peer to peer Networks
 - ii. Client server Network
5. In computer networking, topology refers to the physical or logical layout of interconnected devices within a network. Outline TWO advantages and TWO disadvantage of using a star topology. (4 Marks)
6. During a Lab lesson, Mr. Jared a Trainer at Nyarbach TVC explained on several ports found on a computer system. Name and explain the ports below. (4 Marks)



7. Computer networking is essential in today's digital world for a multitude of reasons, impacting various aspects of personal, professional, and societal functions. Highlight FOUR importance of computer networking. (4 Marks)

8. Security is a critical aspect in networking as it focuses on protecting data, systems, and networks from various threats. Describe the components below as used in network security. (4Marks)
 - i. Firewall
 - ii. Cryptography
9. As a network administrator you have been tasked to carry out sub-netting within the fast-growing Agile solutions inc. List FOUR benefits your company will enjoy from this exercise. (4 Marks)
10. Coaxial cable and fiber optic cable are commonly used for communication by most companies in Kenya. Outline TWO differences between the two cables. (4 Marks)

SECTION B: 60 MARKS

Answer any THREE questions from this section.

11.

- a) Computer networking has become an integral part in any business, providing numerous benefits for overall productivity. Analyze FIVE benefits it has in modern business environments, giving specific examples. (10 Marks)
- b) Network topology refers to the arrangement of different elements (links, nodes, etc.) in a computer network. With the aid of a diagram, explain the following types of topologies. (9 Marks)
 - i. Ring Topology
 - ii. Mesh Topology
 - iii. Bus Topology
- c) Differentiate between Bus and Mesh Topology (1 Mark)

12.

- a) Clariah is a computer networking student on her attachment at St.Orphas Group of schools. Her boss assigns her to install the schools' local area network. Outline the steps she will use during the process. (10Marks)
- b) During a college visit to Olkaria geothermal site, you got a chance to look at their network connection. State and explain any FIVE network devices you came across during your visit. (10Marks)

13.

- a) The Internet Protocol (IP) is fundamental to the TCP/IP suite, performing essential roles that enable efficient, reliable, and scalable network communication Discuss FOUR roles of IP as used in TCP/IP. (8 Marks)
- b) John, while studying, realized that IPv4 and IPv6 are both protocols used for addressing and routing traffic across the internet, but differ significantly in structure and capabilities.
 - i. Define the term Protocols (2 Marks)
 - ii. Explain THREE differences between IPV4 and IPV6. (6 Marks)
 - iii. Highlight FOUR advantages of using IPV6 compared to IPV4. (4 Marks)

14.

- a) During a practical assessment the following tools were provided since they are important for crimping to take place. Write their name and explain how they are used in crimping. (12Marks)

i.



ii.



iii.



iv.



b) A network test report provides a comprehensive analysis of the network's performance, reliability, and security. Describe FOUR elements you will see in a network test report

(8Marks)