



**REPUBLIC OF KENYA**

**NATIONAL OCCUPATIONAL STANDARDS**

**FOR**

**INFORMATION AND COMMUNICATION TECHNOLOGY OPERATOR**

**KNQF LEVEL 4**

**PROGRAMME ISCED CODE: 061 2354A**

## SETUP COMPUTER NETWORK

UNIT CODE: 0612 351 03A

### UNIT DESCRIPTION

This unit covers the competencies required in setup computer network. It involves terminating network cables, connecting network cables and performing computer network maintenance.

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function	These are assessable statements which specify the required level of performance for each of the elements. <i><b>Bold and italicized terms are elaborated in the Range</b></i>
1. Terminate Computer network cables	1.1 Network devices are selected as per technical requirements 1.2 Network Cable trunking is performed as per work requirements 1.3 Network <b><i>Cable termination</i></b> is performed as per work requirements
2. Connect Computer network cables	2.1 <b><i>Safety measures</i></b> are observed as per workplace procedure. 2.2 Setting up <b><i>Network devices</i></b> is performed as per work requirements 2.3 Network Cable testing is performed as per work requirements 2.4 Network Cable connection performed as per <b><i>networking standards</i></b> 2.5 Network connection is established as per networking standards 2.6 Network testing is performed as per work requirements
3. Perform Computer Network Maintenance	3.1 Computer network is monitored as per work requirement 3.2 Computer network troubleshooting is performed as per networking standards

	3.3 Computer network is optimized as per networking standards.
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## RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Cable termination may include but is not limited to:	Is the enabling the physical and electrical interconnection of two cable ends, or a cable and a terminal equipment. <ul style="list-style-type: none"> <li>• Cable stripping</li> <li>• Colour coding</li> <li>• Cable crimping</li> </ul>
2. Safety measures may include but are not limited to:	Personal Protective Equipment: <ul style="list-style-type: none"> <li>• Overall/apron/dust coat</li> <li>• Gloves</li> <li>• Safety boots</li> <li>• Ergonomics</li> <li>• First AID kit</li> </ul>
3. Network devices may include but not limited to:	Are electronic devices which are required for communication and interaction between devices on a computer network <p>Computer</p> <ul style="list-style-type: none"> <li>• Router</li> <li>• Switch</li> <li>• Bridge</li> <li>• Hub</li> <li>• Patch panels</li> <li>• Access point</li> </ul>
4. Network standards may include but are not limited to;	Rules for data communications that are needed for interoperability of networking technologies and processes <ul style="list-style-type: none"> <li>• HTTP</li> <li>• IEEE 802.1</li> <li>• TCP/IP</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

### **Required Skills**

The individual needs to demonstrate the following skills:

- Analytical skills
- Troubleshooting skill
- Communication
- Basic ICT skills

### **Required Knowledge**

The individual needs to demonstrate knowledge of:

- Networking concepts
- Networking policies and standards
- Technology underlying cyber-attacks and networks
- Computer crimes
- Laws governing protection of ICT
- Emerging trends and issues in ICT;
  - Cyber security
  - Network automation
  - Cloud migration
  - Artificial intelligence
  - Internet of Things

### **EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed cable trunking 1.2 Terminated network cable 1.3 Performed cable testing 1.4 Set up network devices 1.5 Established network connection 1.6 Performed network troubleshooting. 1.7 Created a network report
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2. Resource Implications	<p>The following resources should be provided:</p> <p>2.1 Access to relevant workplace where assessment can take place</p> <p>2.2 Appropriately simulated environment where assessment can take place</p>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <p>3.1 Demonstration</p> <p>3.2 Practical assignment</p> <p>3.3 Oral Questioning</p> <p>3.4 Demonstration</p> <p>3.5 Written Test</p>
4. Context of Assessment	<p>Competency may be assessed:</p> <p>4.1 On-the-job</p> <p>4.2 In a simulated work environment</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>