# SETUP COMPUTER NETWORK

**ISCED UNIT CODE:** 0612 551 04A

**TVET CDACC UNIT CODE:** IT/OS/NSA/CR/02/5/MA

# **UNIT DESCRIPTION:**

This unit covers the competencies required to Setup a computer network. It involves following: Assemble computer network components, Test Computer network connectivity, Document Computer network configurations and Conduct Computer Network user training.

Elements These describe the key outcomes which make up workplace functions	Performance Criteria These are assessable statements which specify the required level of performance for each of the elements (Bold and italicized terms are elaborated in the range)
Assemble computer network components	1.1. <i>Network components</i> are assembled as per IEEE 802.3 and IEEE 802.11 networking standards. 1.2. <i>Network components</i> are connected according to IEEE 802.3 and IEEE 802.11 networking standards 1.3. <i>Network components</i> and network devices are configured as per IEEE networking standards
2. Test Computer network connectivity	<ul> <li>2.1. <i>Network component</i> performance is tested as per industry standards.</li> <li>2.2. Network performance is tested as per work procedure.</li> <li>2.3. <i>Network testing</i> report is generated as per work procedure</li> <li>2.4 <i>Transmission Media</i> are tested as per work procedure</li> </ul>
3. Document Computer network configurations	3.1. <i>Network component</i> configurations are documented as per work procedure. 3.2. Network data points are labeled as per work procedure 3.3. Network topology design is labeled as per work procedure
4. Conduct Computer Network user training	<ul> <li>4.1 Basic network navigation is conducted as per work procedure</li> <li>4.2 Common issues are Troubleshoot as per work procedure</li> <li>4.3 <i>Data backup and recovery</i> is performed as per work procedure</li> </ul>

# **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
	Transmission media may include but not limited to:	• Fiber
		• UTP
		• Coaxial
		• Radio
		• STP
2.	Network components may include but not limited to:	• Switches
		• Routers
		• Radio
		• Servers
		• Host
3.	Network testing may include but not limited to:	Performance testing
		• Functionality testing
		Security testing
		Resilience and Recovery Testing
		<ul> <li>connectivity testing</li> </ul>
		Media testing
		Bandwidth testing
4.	Data backup and recovery may include but not limited to;	Data identification and classification
		Backup strategy design
		<ul> <li>Selection of backup solutions</li> </ul>
		• Implementation of backup procedures
		Regular backup execution
		Monitoring and verification

# REQUIRED KNOWLEDGE AND SKILLS

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

Network architecture

- Network components and devices
- Network types
- Safety Awareness
- o Environmental conservation
- Workplace safety and health

# Required skills

- Computer Literacy
- Critical thinking
- o Communication skills
- o Computational mathematics skills
- Problem-solving skills
- Analytical skills
- o Creativity and innovation
- Network testing techniques
- Network security configuration
- Network configuration techniques

### **EVIDENCE GUIDE**

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

1. Critical aspects of	Assessment requires evidence that the candidate:
competency	1.1 Set up a computer network as per work procedure
competency	1.2 Tested network connectivity as per work procedure
	1.3 Documented network configuration as per work
	procedure
	1.4 Conducted network user training as per work
	procedure
	The following resources should be provided:
	2.1 Appropriately simulated environment where
2. Resource implications	assessment can take place
	2.2 Access to relevant work environment
	2.3 Resources relevant to the proposed activities or
	tasks; including computers, media, routers, switches,
	ports etc
	Competency in this unit may be assessed through:
	3.1 Observation
3. Methods of assessment	3.2 Oral questioning
	3.3 Portfolio of evidence
	3.4 Interviews
	3.5 Third party report
	3.6 Practical assessment
	3.7 Written tests

4. Context of assessment	4.1 This Competency may be assessed in a workplace or a simulated workplace
5. Guidance information for assessment	5.1 Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

