



**COMPETENCY BASED CURRICULUM**

**FOR**

**INFORMATION COMMUNICATION TECHNOLOGY**

**KNQF LEVEL 5**

**PROGRAMME ISCED CODE: 061 2454A**

## **COMPUTER REPAIR AND MAINTENANCE**

**UNIT CODE:** 0714 351 04A

**Duration of Unit:** 200 Hours

### **Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Perform Computer Repair and Maintenance

### **Unit Description**

This unit covers the competencies required for performing computer repair and maintenance. It involves performing computer troubleshooting, repairing faulty components, testing computer component functionality and performing computer maintenance.

### **Summary of Learning Outcomes**

<b>Learning Outcomes</b>	<b>Durations (Hours)</b>
1. Perform computer troubleshooting	50
2. Repair faulty components.	60
3. Test computer component functionality	60
4. Perform computer maintenance	30
<b>Total Hours</b>	<b>200</b>

### **Learning Outcomes, Content and Suggested Assessment Methods**

<b>Learning Outcome</b>	<b>Content</b>	<b>Suggested Assessment Methods</b>
1. Perform computer troubleshooting	1.1. User data assessment 1.1.1. Introduction to computer repair and maintenance 1.1.2. Documenting faulty computer user data 1.2. Computer problems identification	<ul style="list-style-type: none"><li>• Practical assessment</li><li>• Project</li><li>• Observation Checklist</li></ul>

	<p>1.2.1. Computer troubleshooting approaches</p> <p>1.2.2. Basic computer hardware faults</p> <p>1.2.3. Methods of information gathering</p> <p>1.2.4. User data analysis</p> <p>1.3. Determining solution to the problem</p> <p>1.3.1. Computer hardware faults remedies</p> <p>1.3.2. Test hypothesis</p> <p>1.3.3. Problem Identification</p> <p>1.3.4. Documentation of solution</p>	<ul style="list-style-type: none"> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul>
2. Repair faulty components.	<p>2.1 Selection of computer components for replacement</p> <p>2.1.1 Computer hardware components</p> <p>2.1.1.1 Factors to consider in selecting computer components</p> <p>2.1.1.2 computer hardware components parts acquisition</p> <p>2.2 Assembly of tools for repairing or replacing</p> <p>2.2.1 Computer repair and maintenance tools</p> <p>2.2.1.1 Straight-head screwdriver, large and small</p> <p>2.2.1.2 Phillips-head screwdriver, large and small</p> <p>2.2.1.3 Tweezers or part retriever</p> <p>2.2.1.4 Needle-nosed pliers</p> <p>2.2.1.5 Wire cutters</p> <p>2.2.1.6 Chip extractor</p> <p>2.2.1.7 Hex wrench set</p> <p>2.2.1.8 Torx screwdriver</p>	<ul style="list-style-type: none"> <li>• Practical assessment</li> <li>• Project</li> <li>• Observation Checklist</li> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul>

	<p>2.3 Observation of Safety procedures</p> <p>2.3.1 Safety measures and procedures</p> <p>2.3.1.1 Personal Protective Equipment's</p> <p>2.3.1.2 Proper use of tools and equipment</p> <p>2.3.1.3 Fire safety</p> <p>2.3.1.4 Classes of fires</p> <p>2.3.1.5 Fire extinguishers</p> <p>2.3.1.6 Emergency procedures</p> <p>2.3.1.7 First AID kit</p> <p>2.3.1.8 Emergency contact</p> <p>2.3.1.9 Contingency measures</p> <p>2.4 Repair and replacing computer components</p> <p>2.4.1 Computer components Instruction manuals</p> <p>2.4.2 Computer components disassembly process</p> <p>2.4.3 Reassembling repaired or replaced computer components</p> <p>2.5 Disposing faulty or obsolete computer hardware components</p> <p>2.5.1 Pollution</p> <p>2.5.2 E- waste</p> <p>2.5.3 Hazards</p> <p>2.5.4 Types of E-waste</p> <p>2.5.5 Proper disposal methods</p>	
3. Test computer component functionality	<p>3.1 Performing POST on computer</p> <p>3.2 Performing computer component test</p> <p>3.2.1 Importance of testing</p> <p>3.2.2 Testing techniques</p> <p>3.2.2.1 Testing of repaired or replaced components</p>	<ul style="list-style-type: none"> <li>• Practical assessment</li> <li>• Project</li> <li>• Observation Checklist</li> </ul>

	<p>3.2.3 Evaluation of test Results</p> <p>3.3 Computer component's functionality report</p> <p>3.3.1 Generation of test results report</p>	<ul style="list-style-type: none"> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul>
4. Perform computer maintenance	<p>4.1 Computer maintenance scheduling</p> <p>4.1.1 Introduction to computer maintenance</p> <p>4.1.1.1 Definition of computer maintenance</p> <p>4.1.1.2 Importance of computer maintenance</p> <p>4.1.2 Types of computer maintenance</p> <p>4.1.3 Prepare computer maintenance schedule</p> <p>4.2 Performing computer maintenance</p> <p>4.2.1 Computer maintenance utilities</p> <p>4.2.2 Uses of computer maintenance utilities</p> <p>4.2.3 Perform computer maintenance</p> <p>4.3 Computer maintenance report</p> <p>4.3.1 Importance of computer maintenance report</p> <p>4.3.2 Components of computer maintenance report</p>	<ul style="list-style-type: none"> <li>• Practical assessment</li> <li>• Project</li> <li>• Observation Checklist</li> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul>

### **Suggested Delivery Methods**

- Instructor led facilitation using active learning strategies
- Demonstration by trainer
- Practical work by trainee
- Viewing of related videos
- Group discussions

- Direct instructions

### Recommended Resources for 25 Trainees

S/No.	Category/Item	Description/Specifications	Quantity	Recommended Ratio (Trainee: Item)
<b>A</b>	<b>Learning Materials</b>			
1.	Textbooks	For trainee's use	5 pcs	5:1
2.	Installation manuals	For trainers' use	5 pcs	5:1
3.	Flip Charts	For trainer's use	5 pcs	5:1
4.	PowerPoint presentations	For trainer's use		
<b>B</b>	<b>Learning Facilities &amp; infrastructure</b>			
5.	Lecture/theory room	For training	1	25:1
6.	Computer Laboratory	For training	1	25:1
<b>C</b>	<b>Consumable materials</b>			
7.	Printing papers	For printing	1 ream	1:20
8.	Foolscaps	For writing	1 ream	
9.	Toners	For printers	2 pcs	13:1
10.	Assorted colour of whiteboard markers	For trainer's use		
<b>D</b>	<b>Tools and Equipment</b>			
11.	Computers	For training	25 pcs	1:1

12.	Projector	For trainer's use	1 pcs	25:1
13.	Printers	For printing	2 pcs	13:1
14.	Whiteboard	For trainer's use	1 pcs	25:1
15.	Flash drives	For sharing data	5 pcs	5:1
16.	1 External Hard drive	For storing data	1 pcs	25:1
17.	Computer Repair Tool box	For repair	5	5:1