REPUBLIC OF KENYA

COMPETENCY BASED MODULAR CURRICULUM

FOR

NETWORK SYSTEM TECHNICIAN
KNQF LEVEL 5

PROGRAMME CODE: 0612 454A

COMPUTER REPAIR AND MAINTENANCE

UNIT CODE: 0714 451 03A

Duration of Unit: 130 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.

Learning Outcomes	Duration (Hours)
1. Computer troubleshooting	20
2. Faulty components	50
3. Computer component functionality	30
4. Computer maintenance	30
TOTAL	**130**

Summary of Learning Outcomes

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Perform computer troubleshooting	1.1. User data assessment 1.1.1. Introduction to computer repair and maintenance	• Practical assessment • Project

	1.1.2. Documenting faulty computer user data 1.2. Computer problems identification 1.2.1. Computer troubleshooting approaches 1.2.2. Basic computer hardware faults 1.2.3. Methods of information gathering 1.2.4. User data analysis 1.3. Determining solution to the problem 1.3.1. Computer hardware faults remedies 1.3.2. Test hypothesis 1.3.3. Problem Identification 1.3.4. Documentation of solution	• Observation Checklist • Product Checklist • Written assessment • Portfolio of evidence
2. Repair faulty components.	2.1 Selection of computer components for replacement 2.1.1 Computer hardware components 2.1.1.1 Factors to consider in selecting computer components 2.1.1.2 computer hardware components parts acquisition 2.2 Assembly of tools for repairing or replacing 2.2.1 Computer repair and maintenance tools 2.2.1.1 Straight-head screwdriver, large and small 2.2.1.2 Phillips-head screwdriver, large and small 2.2.1.3 Tweezers or part retriever 2.2.1.4 Needle-nosed pliers 2.2.1.5 Wire cutters 2.2.1.6 Chip extractor	• Practical assessment • Project • Observation Checklist • Product Checklist • Written assessment • Portfolio of evidence

	2.2.1.7 Hex wrench set 2.2.1.8 Torx screwdriver 2.3 Observation of Safety procedures 2.3.1 Safety measures and procedures 2.3.1.1 Personal Protective Equipment's 2.3.1.2 Proper use of tools and equipment 2.3.1.3 Fire safety 2.3.1.4 Classes of fires 2.3.1.5 Fire extinguishers 2.3.1.6 Emergency procedures 2.3.1.7 First AID kit 2.3.1.8 Emergency contact 2.3.1.9 Contingency measures 2.4 Repair and replacing computer components 2.4.1 Computer components Instruction manuals 2.4.2 Computer components disassembly process 2.4.3 Reassembling repaired or replaced computer components 2.5 Disposing faulty or obsolete computer hardware components 2.5.1 Pollution 2.5.2 E- waste 2.5.3 Hazards 2.5.4 Types of E-waste 2.5.5 Proper disposal methods	
3. Test computer component functionality	3.1 Performing POST on computer 3.2 Performing computer component test 3.2.1 Importance of testing 3.2.2 Testing techniques	• Practical assessment • Project

	3.2.2.1 Testing of repaired or replaced components 3.2.3 Evaluation of test Results 3.3 Computer component's functionality report 3.3.1 Generation of test results report	• Observation Checklist • Product Checklist • Written assessment • Portfolio of evidence
4. Perform computer maintenance	4.1 Computer maintenance scheduling 4.1.1 Introduction to computer maintenance 4.1.1.1 Definition of computer maintenance 4.1.1.2 Importance of computer maintenance 4.1.2 Types of computer maintenance 4.1.3 Prepare computer maintenance schedule 4.2 Performing computer maintenance 4.2.1 Computer maintenance utilities 4.2.2 Uses of computer maintenance utilities 4.2.3 Perform computer maintenance 4.3 Computer maintenance report 4.3.1 Importance of computer maintenance report 4.3.2 Components of computer maintenance report	• Practical assessment • Project • Observation Checklist • Product Checklist • Written assessment • Portfolio of evidence

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)
A	Learning Materials			
1.	Textbooks		5 pcs	5:1
2.	Installation manuals		5 pcs	5:1
3.	Flip Charts		5 pcs	5:1
4.	PowerPoint presentations	For trainer's use		
5.	Magazines/brochures/business cards			
B	Learning Facilities & infrastructure			
6.	Lecture/theory room		1	25:1
7.	Computer Laboratory		1	25:1
C	Consumable materials			
8.	Printing papers		1 ream	1:20
9.	Foolscaps		1 ream	
10.	Toners		2 pcs	13:1

11.	Assorted colour of whiteboard markers			
D	Tools and Equipment			
12.	Computers		25 pcs	1:1
13.	Projector		1 pcs	25:1
14.	Printers		2 pcs	13:1
15.	Whiteboard		1 pcs	25:1
16.	Flash drives		5 pcs	5:1
17.	1 External Hard drive		1 pcs	25:1
18.	Computer Repair Tool box		5	5:1