Skills Programme 3

Hardware Concepts for Developers

Activity Sheet

78965 Further Education and Training Certificate: IT: System Development

Credits: 168

NQF LEVEL: 04

US Type	ID	US Title	Level	Credits
Core	14913	EXPLAIN THE PRINCIPLES OF COMPUTER NETWORKS	03	5
		TOTAL CREDITS		**5**

Skills Programme 3 – Hardware Concepts for Developers Workplace Component	
Learner Name & Surname:	
Learner ID:	
Learner Signature:	
Workplace:	
Mentor Name & Surname:	
Mentor Signature:	
Date of Completion:	
Assessor Name & Surname:	
Assessor Number:	
Assessor Signature:	
Date:	
Moderator Name & Surname:	
Moderator Number:	
Date of Moderation:	
Moderator Signature:	

Log Sheet

The log-sheet should be completed each time you go to the workplace and work on this module.

Date	Start Time	End Time	Task	Mentor Signature

Workplace Assignment

NB: For you to be declared competent in this course you must conduct facilitation session.
The following task are building blocks that will assist you to conduct a facilitation session.
Each task be done completely and submit evidence.

US14913

SO1: Describe data communication.

SO1.1. The description explains the roles of key elements in data communication.
SO1.2. The description differentiates between LAN's and WAN's.

QUESTIONS		Attempt 1 Date:		Attempt 2 Date:		Attempt 3 Date:	
		C	NYC	C	NYC	C	NYC
Demonstrate an understanding of following;							
1	Computer, Sender, Receiver, Transmission media.						
2	Speed, Control, Access, Media, Cost, Distance.						
Comments							

	Integrated theory	
Question:		

SO2: Demonstrate knowledge of main features of LANs.

SO2:1. The demonstration identifies the uses of LAN's with respect to current practice.
SO2:2. The demonstration identifies the main types of LAN media.
S02:3. The demonstration describes the main LAN configurations.
S02:4. The demonstration describes LAN bandwidth.
SO2:5. The demonstration describes LAN protocols.

QUESTIONS		Attempt 1 Date:		Attempt 2 Date:		Attempt 3 Date:	
		C	NYC	C	NYC	C	NYC
Demonstrate an understanding of							
1	Local sharing of data, programs, peripherals, and communications.						
2	Twisted pair, Coaxial, Optic fiber, Wireless.						
3	Star, Bus, Ring.						
4	Baseband, Broadband.						
5	Ethernet, Token ring, TCP/IP.						
Comments							

	Integrated theory	
Question:		

SO3: Demonstrate knowledge of main features of WANs.

QUESTIONS		Attempt 1 Date:		Attempt 2 Date:		Attempt 3 Date:	
		C	NYC	C	NYC	C	NYC
Demonstrate an understanding of the use and application of:							
1	Remote sharing of data, programs, peripherals, and communications.						
2	Voice, Data, Packet switched, ISDN.						
Comments							

	Integrated theory	
Question:		

Workplace Safety Inspection

Objective: Identify potential hazards in the IT workplace.

Task:

- Inspect the workplace for safety hazards, such as improper cable management, overloaded power sockets, or ergonomics issues.
- Document findings and recommend solutions.
- Use a provided checklist to ensure all areas are covered.

Assessment:

- Learners submit the completed safety inspection checklist.
- The mentor verifies accuracy and provides feedback.

LearnerSignature:		**Date:**	
Assessor Signature:		**Date:**	
Moderator Signature:		**Date:**	

Preventive Maintenance Task

Objective: Perform preventive maintenance on hardware.

Task:

- Clean a computer's internal components, check for loose connections, and ensure all parts are functioning correctly.
- Update operating systems and drivers.
- Backup data and verify the integrity of storage devices.

Assessment:

- Submit a preventive maintenance report detailing tasks performed, tools used, and observations.
- The mentor observes the process and signs off on the learner's performance.

LearnerSignature:		**Date:**	
Assessor Signature:		**Date:**	
Moderator Signature:		**Date:**	

LAN/WAN Configuration

Objective: Demonstrate knowledge of network configurations.

Task:

- Set up a simple LAN in the workplace using routers, switches, and cables.
- Configure IP addresses and test connectivity between devices.
- Explain how the setup supports data communication.

Assessment:

- Learners create a network diagram and document the configuration steps.
- A practical demonstration is observed and evaluated by the mentor.

LearnerSignature:		**Date:**	
Assessor Signature:		**Date:**	
Moderator Signature:		**Date:**	

E-Waste Management

Objective: Develop and implement an e-waste management plan.

Task:

- Categorize old hardware for recycling or disposal.
- Research local e-waste recycling centers.
- Coordinate with a recycling partner and document the process.

Assessment:

- Learners submit a step-by-step e-waste management plan.
- Evidence such as receipts from recycling centers or photographs of disposed items supports their submission.

LearnerSignature:		**Date:**	
Assessor Signature:		**Date:**	
Moderator Signature:		**Date:**	

Green Computing Proposal

Objective: Encourage sustainable IT practices in the workplace.

Task:

- Analyse the workplace's energy consumption.
- Identify inefficient practices and propose solutions (e.g., using energy-efficient devices, enabling power-saving modes).
- Create a proposal to present to workplace management.

Assessment:

- Submit a written proposal and present it to the mentor or assessor.
- Include visual aids (e.g., graphs or charts) to support findings.

LearnerSignature:		**Date:**	
Assessor Signature:		**Date:**	
Moderator Signature:		**Date:**	