NATIONAL VOCATIONAL QUALIFICATION LEVEL 1

GSM REPAIRS AND MAINTENANCE

NATIONAL VOCATIONAL QUALIFICATION

QCF LEVEL 1- GSM MAINTENANCE ASSISTANT

GENERAL INFORMATION

QUALIFICATION PURPOSE

The National Vocational Qualification in GSM Repairs and Maintenance is designed to produce skilled GSM Maintenance Assistants who should be able to install GSM and mobile phone software and carry out basic repairs, and operate a GSM and mobile phone business.

QUALIFICATION OBJECTIVES

The learner should be able to:-

- i. Work safely in a GSM Repairs and Maintenance Workshop.
- ii. Communicate effectively and understand the basic terms and terminologies required to operate in a GSM Repairs and Maintenance work environment.
- iii. Install basic GSM and mobile phone software.
- iv. Carryout basic GSM and mobile phone hardware faults.
- v. Operate a GSM and Mobile Phone Spare Parts Business.
- vi. Operate GSM and Mobile Phone Workshop Business.

Mandatory Units

S/No /Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
1	ICT/GRM/001/LI	Occupational Health and Safety	2	20	Level 1
2	ICT/GRM/002/LI	Communication in GSM and Mobile Phones Workshop	2	20	Level 1
3	ICT/GRM/003/LI	Introduction to GSM and Mobile Phones Hardware Faults	3	30	Level 1
4	ICT/GRM/004/LI	Introduction to GSM and Mobile Phones Software	6	60	Level 1
5	ICT/GRM/005/LI	Operate GSM and Mobile Phones Spare Parts Business	3	30	Level 1

6	ICT/GRM/006/LI	Operate GSM and	3	30	Level 1
		Mobile Phones			
		Workshop Business			
			19	190	

NOTE: This is a 19 credit qualification, to achieve this qualification; Learners are required to achieve 19 credits. All units are compulsory for the learners. Each Credit is equivalent to approx. 10 Guided Learning Hours (GLH). The Total Learning Hours will therefore consist of the GLH *plus* the independent learning hours of the candidate, which is generally 50% - 150% of the GLH. *The actual Total Learning Hours for each Credit will then be a minimum of 15 hours*.

National Vocational Qualification

LEVEL 1 GSM REPAIRS AND MENTAINANCE ASSISTANT

Unit 1: OCCUPATIONAL HEALTH AND SAFETY

Unit Reference Number: ICT/GRM/001/LI

QCF Level: 1

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: This Unit is aimed at providing the learner with the requisite health and safety requirements when working in a GSM and mobile phone workshop.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

- 1. Direct Observation/oral questions (DO)
- 2. Question and Answer (QA)
- 3. Witness Testimony (WT)
- 4. Assignment (ASS)

UNIT 01: OCCUPATIONAL HEALTH AND SAFETY

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					ider f.).	ice Pag	e
LO 1: Apply	1.1	Explain safety procedure in GSM mobile workshop.								
appropriate safety in GSM and mobile phone	1.2	Use appropriate safety needed in a GSM workshop								
workshop.	1.3	Use appropriate safety measures needed in GSM and mobile phone workshop								
	1.4	State the importance of safety equipment in a GSM and mobile phone workshop.								
LO 2: Demonstrate	2.1	Identify the basic safety equipment in a GSM and mobile phone workshop.								
understanding of safety equipment	2.2	Use hardware safety equipment in a GSM and mobile phone workshop.								
in GSM and mobile phone workshop.	2.3	State importance of using the appropriate safety equipment in a GSM and mobile phone workshop.								
	0.4									
LO 3: Adhere to adequate safety	3.1	Identify preventive/corrective steps for a safety equipment in a GSM and mobile phone workshop.								
precautions in using GSM and	3.2	Explain how to maintain hygienic, safe and secure workplace.								
mobile phone equipment.	3.3	Explain the uses of safety equipment in a GSM and mobile workshop as required.								
	3.4	Explain the importance of using the correct tools during GSM and mobile phone repairs.								
LO 4: Apply basic	4.1	Explain the basic precaution on working on GSM and mobile phones.								
precautions while working on a GSM	4.2	State the precautions to be observed when dismantling GSM and mobile phones.								
and mobile phones	4.3	List the correct procedures when coupling GSM and mobile phone that are uncoupled.								
LO 5: Apply personnel health and hygiene rules	5.1	State own responsibility under health and safety. State general rules on hygiene that must be followed.								
in GSM and mobile phone	5.3	State correct clothing, footwear, and head wear that should be worn in workshop.								
work shop.	5.4	Describe how to deal with cuts, grazes, and wounds.								

Unit 2: COMMUNICATION IN GSM AND MOBILE PHONES

Unit Reference Number: ICT/GRM/002/LI

QCF Level: 1

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: This Unit is aimed at equipping the learner with the relevant GSM and

mobile phone communication terms and terminologies, and to enable him effectively

communicate in his work environment.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning

and human development is carried out. **Simulation is/or is not allowed** in this unit

and level.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)

2. Question and Answer (QA)

3. Witness Testimony (WT)

4. Assignment (ASS)

UNIT 02: COMMUNICATION IN GSM AND MOBILE PHONES

LEARNING OBJECTIVE (LO)		PERFORMANCE CRITERIA	ide pe	nce	Ev Re	nce Page	
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The learner will:		The learner can:					
LO 1: Demonstrate	1.1	State the appropriate terms to use on GSM and mobile phone.					
knowledge on GSM mobile	1.2	Identify A-Z GSM and mobile phone terms giving their definition.					
phones terms and terminologies.	1.3	State the steps involved when using GSM and mobile terminology. (E.g. SMS, MMS, etc.)					
J							
LO 2: Apply the appropriate	2.1	State the correct meaning for the GSM and mobile phone acronyms (e.g. mic, bb. etc.)					
mobile phone acronyms used by	2.2	Interpret GSM and mobile phone number prefixes (e.g. 01, 062, 064, 0803, 0802, 0907etc.)					
mobile phone technicians.	2.3	Mention GSM and mobile phone acronyms.					
LO 3: Use GSM and	3.1	Select the appropriate application to be used in GSM and mobile phones.					
mobile phone applications.eg	3.2	Describe how to run an application in a GSM and mobile phone.					
timing, navigation, sensor log etc.	3.3	State the disadvantages of using a wrong application in a GSM and mobile phone.					
LO 4: Know the	4.1	State the economic importance of GSM and mobile phone over analogue.					
importance of digital phones and	4.2	State the social medias used for GSM and mobile communication.					
the implications of social media use.	4.3	Explain the step when using any of the social media on a GSM and mobile phone.					
Social inicala asc.	4.4	State the disadvantages of GSM and mobile phone.					
	4.5	Explain security mechanism used in GSM and mobile phone.					

Unit 3: INTRODUCTION TO GSM AND MOBILE PHONE HARDWARE FAULTS

Unit Reference Number: ICT/GRM/001/LI

QCF Level: 1

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: This Unit is aimed at acquainting the learner with the basic GSM and

mobile phone hardware faults, and the knowledge of the tools/ equipment required

to effect the repairs.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning

and human development is carried out

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)

2. Question and Answer (QA)

3. Witness Testimony (WT)

4. Assignment (ASS)

UNIT 03: INTRODUCTION TO GSM AND MOBILE PHONE HARDWARE FAULTS

LEARNING		PERFORMANCE CRITERIA			nce		ider	
OBJECTIVE (LO)			Ту	pe		Re No		Page
The learner will:		The learner can:						
LO 1:	1.1	Explain GSM and mobile phone hardware.						
Demonstrate	1.2	Identify common hardware faults in GSM and						
knowledge of		mobile phone.						
hardware faults	1.3	State the differences between hardware and						
and tools used in		software fault.						
GSM and mobile	1.4	Identify common hardware tools used in GSM						
phone repairs.		and mobile phone repairs.						
	1.5	State techniques for fault diagnosis in GSM and						
		mobile phone repairs.						
	1.6	State the advantage of using the appropriate						
		tools during repairs.						
LO 2:	2.1	Identify common hardware faults in GSM and						
Demonstrate		mobile phone						
knowledge on	2.2	State the components required in hardware fault						
identification of		diagnosis.						
faults in GSM and	2.3	Explain the replacement procedure of GSM and						
mobile phone		mobile phone hardware component.						
hardware								
component								
LO 3:	3.1	Explain how to carry out trouble shooting,						
Diagnose and		tapping and testing in GSM and mobile phone						
repair GSM and		repairs.						
mobile phones.	3.2	Explain the process involved of tracing and						
		tapping of GSM and mobile phone mother board.						\vdash
	3.3	Explain the techniques in tracing /tapping of GSM						
		mobile phone.						\vdash
	3.4	Identify appropriate tools to be use when tracing,						
	2 -	tapping and testing.						
	3.5	Identify general precaution while dismantling						
	2.0	GSM and mobile phone.						
	3.6	State the precautions to be observed in coupling						
	2.7	GSM and mobile phone.						
	3.7	Explain the steps in servicing a mobile phone.						

Unit 4: INTRODUCTION TO GSM AND MOBILE PHONES SOFTWARE

Unit Reference Number: ICT/GRM/001/LI

QCF Level: 1

Credit Value: 6

Guided Learning Hours: 60

Unit Purpose: This Unit is aimed at providing the learner with the relevant knowledge

of various application software, the ability to install and uninstall application

software, and how to resolve software and security issues in GSM and mobile

phones.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning

and human development is carried out. Simulation is/or is not allowed in this unit

and level.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)

2. Question and Answer (QA)

3. Witness Testimony (WT)

4. Assignment (ASS)

UNIT 04: INTRODUCTION TO GSM AND MOBILE PHONES SOFTWARE

The learner will: Explain GSM and mobile phone software.	LEARNING OBJECTIVE (LO)		PERFORMANCE CRITERIA	Evidence Type			Re		nce Pa	ge
LO 1: Demonstrate knowledge of GSM and mobile phone software.	The learner will:		The learner can:				INC).		
Demonstrate knowledge of GSM and mobile phone software. 1.3 Explain GSM and mobile phone software terms. and mobile phone software specifications. 1.4 Explain how to install GSM and mobile phone software terms. 1.5 State economic importance of GSM and mobile phone software. 1.6 State the social importance of GSM and Mobile phone software. 1.7 State the security issues on GSM and mobile phone software. 1.8 State the social importance of GSM and mobile phone software. 1.9 State the security issues on GSM and mobile phone software. 1.9 State the various operating systems used in GSM and mobile phone operating system. 2.1 State the various operating systems used in GSM and mobile phone operating system. 2.2 Mention the steps in updating software in a GSM and mobile phone. 2.3 Mention the steps in upgrading software in a GSM and mobile phone. 2.4 State the appropriate software applications to be used in GSM and mobile phone. 3.1 State the appropriate software applications to be used in GSM and mobile phone. 3.2 Explain how to run an application in a GSM and mobile phone. 3.3 State the implications of not using appropriate software applications in a GSM and mobile phone. 3.3 State the implications in a GSM and mobile phone memory. 4.1 Identify the steps involved in formatting/wiping GSM and mobile phone memory. 4.2 State the implications of sudden formatting/wiping GSM and mobile phone memory. 4.3 State the implications of sudden formatting/wiping GSM and mobile phone memory. 4.3 State the implications of sudden formatting/wiping GSM and mobile phone memory. 5.4 Mention the requirements for configuring GSM and mobile phone. 5.5 Mention the requirements for configuring GSM and mobile phones. 5.6 Mention the requirements for configuring GSM and mobile phone. 5.7 Mention the requirements for configuring GSM and mobile phone. 5.8 Explain the use of test point on GSM and mobile		1.1	2 22 2 22							
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5.4 Explain the use of test point on GSM and mobile		5.3								
		5.4								\vdash
		JF	phone while flashing.							

LEARNING		PERFORMANCE CRITERIA	Ev	Evidence		vidence Eviden					dence				
OBJECTIVE (LO)			Ту	Туре			F	Ref.	Pa	ige					
, ,							1	No.		Ŭ					
The learner will:		The learner can:													
	5.5	Explain the use of test mode while flashing.													
	6.6	Explain the use of firmware during flashing.													
LO 6:	6.1	Identify the various types of flashing boxes used													
Use various		in rectifying GSM and mobile phone faults.													
flashing boxes in	6.2	Explain the implications of using a wrong flashing													
GSM and mobile		box on a GSM and mobile phone.													
phone software.	6.3	Explain the uses of flashing boxes to flash GSM													
		mobile phones.													
LO 7:	7.1	Identify the various types of USB cables.													
Apply various	7.2	Explain the functions of USB cables.													
flashing USB cable	7.3	Explain the use of USB cables during flashing.													
used in GSM and															
mobile phone software.															
Software.															
LO 8:	8.1	Explain the following:													
	0.2	a) dongle													
Demonstrate knowledge of		3, 301.60													
dongle/wi-		b) wi-fi													
fi/modem/															
accessories in		c) modem													
GSM and mobile	8.2	Identify the differences among all the items listed													
phone software.	0.2	above.													
	8.3	List various software accessories and their uses.													
LO 9:	9.1	Explain causes of tripping off in GSM and mobile													
Demonstrate		phones.													
knowledge of	9.2	Explain how to perform rebooting of GSM and													
tripping off /		mobile phones.													
rebooting of GSM	9.3	Explain how to diagnose and rectify the faults of													
and mobile phone.		tripping off and rebooting of GSM and mobile													
		phones.													
10.10:	10.1	Explain the causes of blinking in GSM and mobile													
LO 10:	10.1	phones.													
Demonstrate knowledge of	10.2	Explain the causes of hanging in GSM and mobile			†										
blinking/ hanging		phones.													
in GSM and	10.3	Explain how to diagnose and rectify the fault of			ĺ										
mobile phones.		blinking and hanging													
LO 11:	11.1	Explain the causes of start-up in GSM and mobile													
Resolve start-up/		phones.													
power problems in	11.2	Explain the causes of power problems in GSM and													
		mobile phones			<u> </u>										

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	 ide pe	nce	F	Evidend Ref. No.		ge
GSM and mobile	11.3		Ι	I		<u> </u>	1 1	
	11.5	Explain how to identify and repair start-up and						
phones.		power problems in GSM and mobile phone						
LO 12:	7.1	Explain the use of codes and decoding in GSM						
Demonstrate		and mobile phones.						
knowledge of	7.2	Classify various type of codes used in GSM and						
coding/decoding		mobile phones.						
in GSM and	7.3	Identify various function of codes used in GSM						
mobile phones.		and mobile phones, eg. *#06#,*#0000#						
·		,*2767*2878#, etc.						
	7.4	Explain how to carryout decoding of GSM mobile						
		phone with a forgotten code.						
LO 13:	8.1	Draw various security patterns used in GSM and						
Apply security		mobile phones.						
patterns in a GSM	8.2	Explain the benefits of security patterns to GSM						
and mobile phone.		and mobile phone user						
and modific phone.	8.3	Explain the implications of using mobile phone						
		security patterns.						
LO 15:	9.1	Identify various GSM and mobile phone network						
Demonstrate		provider in Nigeria.						
knowledge of	9.2	Identify various categories of turbo SIM.						
network turbo	9.3	Use a turbo SIM on GSM and mobile phone.						
SIM.		,						
JIIVII								

Unit 5: OPERATE GSM AND MOBILE PHONE SPARE PARTS BUSINESS

Unit Reference Number: ICT/GRM/005/LI

QCF Level: 1

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: This Unit is aimed at equipping the learner with the basic knowledge

required to set up a GSM and mobile phone spare parts business.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning

and human development is carried out. Simulation is/or is not allowed in this unit

and level.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)

2. Question and Answer (QA)

3. Witness Testimony (WT)

4. Assignment (ASS)

UNIT 05: OPERATE GSM AND MOBILE PHONE SPARE PARTS BUSINESS

LEARNING OBJECTIVE (LO)		PERFORMANCE CRITERIA		Evidence Type						Evidence Type						Evi Re No	nce Pa	ge
The learner will:		The learner can:																
LO 1:	1.1	State sources of GSM and mobile phone spare																
Demonstrate		parts.																
knowledge on	1.2	State GSM and mobile phone spare parts																
locations of GSM		manufacturers.																
and mobile phone	1.3	Identify quality GSM and mobile phone spare																
spare parts		parts manufacturers.																
manufacturer.																		
LO 2:	2.1	Explain GSM and mobile phone spare parts.																
Demonstrate	2.2	Identify various GSM and mobile phone scraps.																
knowledge of	2.3	Explain the importance of GSM and mobile																
GSM and mobile		phone scraps to technician/customer.																
phone scraps.	2.4	Explain the importance of GSM and mobile phone																
		scraps technician/ customer.																
LO 3:	3.1	Explain GSM and mobile phone spare part.																
Replace new or	3.2	State the techniques of fixing GSM and mobile																
fairly used GSM		phone spare part. E.g. LCD (touch screen), flex,																
and mobile phone		etc.																
spare parts.	3.3	Match the correct GSM and mobile spare parts.																

Unit 6: OPERATE GSM AND MOBILE PHONE WORKSHOP BUSINESS

Unit Reference Number: ICT/GRM/006/LI

QCF Level: 1

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: This Unit is aimed at equipping the learner with the basic knowledge

required to set up a GSM and mobile phone workshop business.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning

and human development is carried out. Simulation is/or is not allowed in this unit

and level.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)

2. Question and Answer (QA)

3. Witness Testimony (WT)

4. Assignment (ASS)

UNIT 06: OPERATE GSM AND MOBILE PHONE WORKSHOP BUSINESS

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Ev Ty	ider pe	nce		Evi Re No	nce Page		
LO 1:	1.1	Identify a workshop for GSM and mobile phone								
Demonstrate		business.								
knowledge of	1.2	Explain various features that make up a GSM and								
GSM and mobile		mobile phone workshop business.								
phone workshop	1.3	State the importance of GSM and mobile phone								
business		workshop business.								
	1.4	State the qualities of a GSM and mobile phone								
		workshop business.								
	1.5	State the functions of a GSM and mobile phone								
		workshop business.								
LO 2:	2.1	Select a GSM and mobile phone business.								
Implement a GSM	2.2	Explain how to prepare a business plan for GSM								
and mobile phone		and mobile phone business.								
business project.	2.3	Explain how to implement the GSM and mobile								
	2.4	phone business project.								
	2.4	Explain how to evaluate a GSM and mobile phone								
	2.5	business project.								
		Source fund for a mobile phone business								
	2.6	Identify appropriate prerequisite knowledge for								
		mobile phone sales.								
100	3.1	State categories of GSM and mobile phone								
LO 3:	3.1	software specifications, eg.								
Demonstrate		Android								
knowledge of		Windows								
GSM and mobile phone software										
specifications		Macintosh								
Specifications		• Java								
	2.2	• Simbian								
	3.2	Define GSM and mobile phone software terms								
	3.3	and acronyms.								
	3.3	Explain how to carryout installation of software in GSM and mobile phones.								
		in Gain and mobile priories.								
10.4	4.1	Explain the economic importance of GSM and								
LO 4:	7.1	mobile phone software.								
Demonstrate	4.2	Explain the social importance of GSM and Mobile								\dashv
knowledge of	7.2	phone software.								
GSM and mobile phone software	4.3	Explain the security issues of GSM and mobile								=
'		phone software.								
benefits.		phone software.								