COMPETENCY STANDARD

MOBILE PHONE SERVICING

Level: 2

(Light Engineering Sector)

Competency Standard Code: CS-LE-MPS-L2-EN-V1

National Skills Development Authority
Prime Minister's Office
Government of the People's Republic of Bangladesh

Copyright

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This Competency Standard for **Mobile Phone Servicing** occupation is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

This document has been developed by NSDA in association with **Light Engineering Sector**, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. " **Mobile Phone Servicing** " is selected as one of the priority occupations of **Light Engineering Sector**. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills Training. Trainees who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (NSQF) under Bangladesh National Qualification Framework and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A competency standard is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in **Light Engineering Sector.**

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

Competency Standards for National Skill Certificate, Level-02 in Mobile Phone Servicing of Light Engineering Sector

Level Descriptors of NSQF (BNQF 1-6)

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

List of Abbreviations

CS	Competency Standard
ISC	Industry Skills Council
NSDA	National Skills Development Authority
NSQF	National Skills Qualifications Framework
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment
SCVC	Standards and Curriculum Validation Committee
STP	Skills Training Provider
SOP	Standard Operating Procedure
UoC	Unit of Competency
FPS	Foot, Pound, Second
MKS	Meter, Kilogram, Second

Approved by

9th Executive Committee (EC) Meeting of NSDA

Held on 16th June 2022

Deputy Director (Admin)
and
Officer of Secretarial Duties for EC meeting
National Skills Development Authority

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Course Structure

For

NATIONAL CERTIFICATE IN MOBILE PHONE SERVICING

(BNQF LEVEL 2)

Sl. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic (1 UoCs required)				**20**
1	GU-05-L2-V1	Apply basic IT skills	2	20
Sector Specific (1 UoCs required)				**15**
2	SU-LE-04-L-V1	Comply with ethical standards in workplace	2	15
Occupation Specific – Compulsory (7 UoCs required)				**260**
3	OU-MPS-01-L2-V1	Disassemble and reassemble of smart mobile phone	2	40
4	OU-MPS-02-L2-V1	Interpret Schematic Diagram and Circuit Diagram of Mobile Phone	2	30
5	OU-MPS-03-L2-V1	Interpret and inspect common parts and Attachments of mobile phone	2	30
6	OU-MPS-04-L2-V1	Recognize common symptoms, cause and repair methods of mobile phone	2	40
7	OU-MPS-05-L2-V1	Test Components of Smart Mobile Phone	2	40
8	OU-MPS-06-L2-V1	Replace SMD Components	2	60
9	OU-MPS-07-L2-V1	Apply Concept of Install Drivers and update Firmware	2	20
Total Nominal Learning Hours				**295**

Units & Elements at a Glance:

Generic Competencies (20 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
GU-05-L2-V1	Apply basic IT skills	1. Identify and use most commonly used IT tools 2. Operate computer 3. Work with word processing application 4. Work with spreadsheets 5. Access email and browse the internet 6. Use audio and video messaging applications 7. Use social network	20
Total Hour			**20**

Sector Specific Competencies (15 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
SU-LE-04-L2-V1	Comply with ethical standards in workplace	1. Interpret the interests of clients 2. Deliver quality products and services 3. Apply professionalism at work 4. Comply with workplace code of conduct	15
		Total Hours	**15**

Occupation Specific Competencies (255 Hours)

Code	Unit of Competency	Elements of Competency	Hours
OU-MPS-01-L2-V1	Disassemble and reassemble of smart mobile phone	1. Prepare for servicing and maintenance works 2. Disassemble smart phone 3. Replace back glass of smart phone 4. Re-assemble the mobile phone 5. Clean and store the tools and materials and clean the workplace	40
OU-MPS-02-L2-V1	Interpret Schematic Diagram and Circuit Diagram of Mobile Phone	1. Identify information from manuals 2. Identify drawings and specifications 3. Interpret drawings and specifications 4. Store manuals	30
OU-MPS-03-L2-V1	Interpret and inspect common parts and Attachments of mobile phone	1. Disassemble mobile phone 2. Identify common parts of mobile phone 3. Interpret functions of Common parts 4. List types of attachments used in mobile phone	30
OU-MPS-04-L2-V1	Recognize common symptoms, cause and repair methods of mobile phone	1. Recognize mobile phone power issues 2. Recognize audio issues 3. Recognize Display issues 4. Recognize Charging issues 5. Recognize Network issues 6. Recognize Battery issues 7. Recognize Software issues	40
OU-MPS-05-L2-V1	Test Components of Smart Mobile Phone	1. Prepare for servicing and maintenance works 2. Disassemble mobile phone 3. Test components 4. Re-assemble the mobile phone 5. Clean and store the tools and materials and clean the workplace	40
OU-MPS-06-L2-V1	Replace SMD Components	1. Prepare for servicing and maintenance works 2. SMD components 3. Clean and store the tools and materials and clean the workplace	60

OU-MPS-07-L2-V1	Apply Concept of Install Drivers and update Firmware	1. Prepare for task to be undertaken 2. Use Internet 3. Identify website and firmware 4. Download firmware & drivers 5. Install drivers & Upgrade firmware	20
		Total Hours	**255**

Generic Competencies

Unit Title	**Apply basic IT skills**
Unit Code	**GU-05-L2-V1**
Nominal Hours	**20 hours**
Unit Descriptor	This unit covers the skills, knowledge and attitudes required to apply basic IT skills in the workplace. It specifically includes identifying common IT tools, using computer, word processing and spreadsheet applications, email and searching on internet.
Elements of Competency	**Performance Criteria** **bold and underlined** terms are elaborated in the range of variables
1. Identify and use most commonly used IT tools	1.1 History of information technology (IT) is identified and summarized. 1.2 Commonly used **IT tools** are identified and described.
2. Operate computer	2.1 Basic parts of a computer are identified. 2.2 Turning on and off technique of a computer is performed. 2.3 Working environment, functions and features of operating system is interpreted. 2.4 Simple trouble shooting techniques are applied.
3. Work with word processing application	3.1 Word processing application appropriate to perform activity is operated. 3.2 Basic typing technique to document is applied. 3.3 Word processing techniques to document are employed. 3.4 Personal CV writing using suitable word processing techniques is practiced. 3.5 Saving and retrieving technique of a document is used.
4. Work with spreadsheets	4.1 Spreadsheet working environment, functions and features are identified and interpreted. 4.2 Data entry on spreadsheet appropriate to perform activity is performed. 4.3 **Data manipulation techniques** to spreadsheet document are applied. 4.4 Spreadsheet document is created and saved
5. Access email and browse the internet	5.1 Use of email account in online environment is explained. 5.2 Writing and sending of workplace emails is completed. 5.3 Different **browsers** to work online are identified and selected. 5.4 Different web portals are browsed and proper search techniques are applied

6. Use audio and video messaging applications	6.1 Audio and video equipment appropriate to work activity is identified. 6.2 Audio and video applications appropriate to work activity are identified. 6.3 Video conferencing with appropriate application is carried out. 6.4 Audio conferencing with appropriate application is carried out.
7. Use social network	7.1 Account on social network is created. 7.2 Social network is used effectively.
RANGE OF VARIABLES	
Variable	**Range** (Included but not limited to):
1. IT tools	1.1 Cell phone 1.2 Tablets 1.3 Computers, laptops, notebooks 1.4 Internet 1.5 Software 1.6 Satellite
2. Data manipulation techniques	2.1 Sum 2.2 Average 2.3 Count 2.4 Max 2.5 Min 2.6 If 2.7 Sort 2.8 Fill 2.9 Header 2.10 Footer Print
3. Browsers	3.1 Internet Explorer 3.2 Firefox 3.3 Google Chrome 3.4 Opera 3.5 Safari 3.6 Omni Web 3.7 Microsoft Edge

Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Identified and used commonly used IT tools; 1.2 Operated computer; 1.3 Performed typing on word processing software, saved and retrieved documents 1.4 Performed data entry with spreadsheet 1.5 Used email account for different online purposes
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 IT and IT tools 2.2 Computer operation 2.3 Techniques of using word processing software; 2.4 Techniques of using spreadsheet software; 2.5 Techniques to access internet
3. Underpinning skills	3.1 Demonstrating use of computer 3.2 Demonstrating typing on word processing software 3.3 Demonstrating data entry with spreadsheet 3.4 Opening email account and using it for different purposes
4. Required Attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors at workplace

5. Resource implications	The following resources must be provided. 5.1 Workplace (simulated or actual) 5.2 IT tools 5.3 Computer/laptop/notebook 5.4 Software 5.5 Internet 5.6 Projector 5.7 Stationary 5.8 Learning manual
6. Method of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Sector Specific Competencies

Unit Title	**Comply with ethical standards in workplace**
Unit Code	**SU-04-L2-V1**
Nominal Hours	**15 hours**
Unit Descriptor	This unit covers the skills, knowledge and attitudes required to comply with ethical standards within the workplace. It specifically includes identifying points of client satisfaction, quality product and service delivery, professionalism and complying with workplace code of conduct.
Elements of Competency	**Performance Criteria** **bold and underlined** terms are elaborated in the range of variables
1. Interpret the interests of clients	1.1 Client's view and interests are interpreted and respected. 1.2 Confidentiality of information is maintained in accordance with organisational policies, **national legislation** and workplace policies. 1.3 Potential conflicts of interest are identified and informed to the proper authority.
2. Deliver quality products and services	2.1 Benchmark of product and service quality is identified. 2.2 Necessity of quality product and service delivery is identified and followed. 2.3 Quality process for products and services is implemented.
3. Apply professionalism at work	3.1 Agreed standards to deliver product or services and commitment to delivery deadlines is maintained. 3.2 Professional image in the workplace is maintained. 3.3 Negotiate effectively with clients is performed.
4. Comply with workplace code of conduct	4.1 Security requirements are complied with. 4.2 Workplace code of conduct is identified and interpreted. 4.3 Workplace code of conduct is followed as stated in company guidelines.
RANGE OF VARIABLES	
Variable	**Range** (Included but not limited to):
1. National legislation	1.1 Industry/sector code of ethics 1.2 International and national guidelines for consumer protection 1.3 International and national copyright laws 1.4 Occupational health and safety requirements 1.5 Intellectual property rights law 1.6 Legal and regulatory policies in the information technology sector

	1.7 Fire safety rules and regulations
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Interpreted quality products and services 1.2 Applied professionalism in the workplace 1.3 Complied with workplace code of conduct
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Code of conduct in the workplace 2.2 Industry and international standards 2.3 Client satisfaction
3. Underpinning skills	3.1 Interpreting quality product and services 3.2 Demonstrating professionalism in the workplace 3.3 Complying with workplace code of conduct
4. Required Attitude	4.1 Eager to learn 4.2 Tidy and punctual 4.3 Concerned about proper use of computer and peripherals 4.4 Concerned for other's rights 4.5 Sincere and honest concerning duties
5. Resource implications	The following resources must be provided. 5.1 Workplace (simulated or actual) 5.2 IT tools 5.3 Computer/laptop/notebook 5.4 Software 5.5 Internet 5.6 Projector 5.7 Stationary 5.8 Learning manual
6. Method of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning

	6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module 7.2 Assessment should be done by a NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Occupation Specific Competencies

Unit Title	**Disassemble and reassemble of Smart Mobile Phone**
Unit Code	**OU-MPS-01-L2-V1**
Nominal Hours	**40 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to disassemble and reassemble of smart mobile phone. It specifically includes the tasks of preparing for disassembling and reassembling; disassembling mobile phone, reassembling smart phone and replacing back glass of smart phone.
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables Training Components
1. Prepare for disassembling and reassembling	1.1 **Personal protective equipment** (**PPE**) is used and OSH is followed; 1.2 Work instructions are interpreted to determine job requirements; 1.3 **Tools and equipment** are selected in accordance with job requirements; 1.4 **Materials** are selected as per job requirement;
2. Disassemble smart phone	2.1 Disassembling system is observed 2.2 Screws, lock position and FPC (Flexible Printed Circuit) Connections (If Applicable) in mobile phone is identified. 2.3 Front and rear parts of mobile phone is identified where adhesive is used 2.4 Location of battery, SIM and memory card are identified and removed by following procedure 2.5 Front and rear part of mobile phone is separated one by one 2.6 Mobile phone PCBA (Printed Circuit Board Assembly) is unscrewed 2.7 Particular screws are placed in particular position 2.8 Connected flex are disconnect from PCBA
3. Re-assemble the mobile phone	3.1 Display module, PCBA and other small components are reassembled as per service manual**.** 3.2 Battery is reassembled as per service manual 3.3 Front cover and back cover are reassembled. 3.4 SIM card, Memory cards are reassembled as per service manual 3.5 **Performance and finishing** are checked after reassemble.

4. Replace back glass of smart phone	4.1 Back glass is visually inspected; 4.2 Back glass is removed by using specific **tool and equipment;** 4.3 Adhesive is removed/cleaned from body as per standard; 4.4 New glass is collected and set up accordingly;
5. Clean and store the tools	5.1 Tools and materials are cleaned and stored. 5.2 The workplace is cleaned as per workplace standard
Range of Variables	
Variable	**Range** (May include but not limited to)
1. Personal Protective Equipment (PPE)	1.1 Mask 1.2 Gloves 1.3 Apron 1.4 Goggles and safety glasses 1.5 Smoke absorber 1.6 Floor mat 1.7 ESD wrist band
2. Tools	2.1 Hand **Tools** 2.1.1. Precision screw driver set. 2.1.2. Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 2.1.3. Blade cutter. 2.1.4. Point cutter. 2.1.5. Tweezers. 2.1.6. Brush. 2.1.7. SIM Ejector 2.2 Power Tools 2.2.1 Soldering Iron; 2.2.2 Electric Screwdriver 2.2.3 Mini Grinding Machine 2.2.4 Glue Remover Motor
3. Equipment	3.1 PC/Laptop 3.2 SMD Rework Station 3.3 Pre heat Station 3.4 Zig and fixture
4. Materials	4.1 Iso Propyl Alcohol (IPA). 4.2 Thermal Tape 4.3 Adhesive
5. All Components	5.1 Sensor 5.2 Biometric Sensor 5.3 Receiver 5.4 Speaker

	5.5 Microphone 5.6 Display (Monitor) 5.7 Side Key 5.8 Battery 5.9 Camera Module 5.10 Vibrator motor 5.11 Proximity Sensor 5.12 SIM Tray 5.13 Coaxial Cable 5.14 Charging Flex/Connector
6. Performance and finishing	6.1 Performance Check: 6.1.1. Functional check. 6.1.2. Network check (call in/out) and internet (if applicable) 6.1.3. Audio check. 6.1.4. Camera check. 6.1.5. Flash light check 6.1.6. Memory check. 6.1.7. LCD check. 6.1.8. Touch check 6.1.9. Headphone check 6.2 Finishing: 6.2.1. Housing 6.2.2. LCD and camera dust 6.2.3. Shortage of Screw
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Prepared for disassembling and reassembling; 1.2 Disassembled smart phone; 1.3 Reassembled mobile phone; 1.4 Replaced back glass of smart phone;
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Select appropriate tools and equipment; 2.2 Disassemble technique of smart mobile phone; 2.3 Reassemble technique of smart mobile phone; 2.4 Technique of replacing back glass;
3. Underpinning skill	3.1 Collecting specialized tools 3.2 Identifying mobile phone cover lock 3.3 Identifying mobile phone chipboard 3.4 Identifying location of screws 3.5 Identifying flex positions

	3.6 Disassembling and reassembling of smart mobile phone;
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Laptop/PC 5.3 Tools and equipment used in disassembling and reassembling 5.4 Service manuals
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module 7.2 Assessment should be done by a NSD certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Title	**Interpret Schematic Diagram and Circuit Diagram of Mobile Phone**
Unit Code	**OU-MPS-02-L2-V1**
Nominal Hours	**30 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to interpret schematic diagram and circuit diagram of mobile phone. It specifically includes identifying information from manuals; identifying drawings and specifications; and interpreting drawing and specifications;
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Identify information from diagram	1.1 Appropriate **diagram** is identified and accessed 1.2 Version and date of manual are checked to ensure up-to-date specifications of tools, equipment, materials and procedures
2. Identify drawings and specifications	2.1 Relevant **drawings** and **specifications** are identified 2.2 **Terms and abbreviations** are identified 2.3 **Signs and symbols** are identified
3. Interpret drawings and specifications	3.1 Drawings and specifications are interpreted 3.2 Schedules, dimensions and specifications contained in the drawings are interpreted
4. Store manuals	4.1 Manuals and documents are collected and packed 4.2 Manuals and Documents are stored appropriately to prevent damage, ready access and updating of information when required
Range of Variables	
Variable	**Range** (May include but not limited to)
1. Diagram	1.1 Block diagram 1.2 Schematic diagram 1.3 Software based diagram

2. Drawings	2.1 Technical Drawings 2.2 Sketch
3. Specifications	3.1 Product specifications 3.2 Performance specifications 3.3 Method specifications
4. Terms and abbreviations	4.1 Refers to all terms and abbreviations associated with the mobile phone servicing
5. Signs and symbols	5.1 Include all signs and symbols associated with mobile phone servicing
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 interpreted drawings and specifications in mobile phone servicing 1.2 interpreted schedules, dimensions and specifications contained in the drawings 1.3 satisfied the requirements mentioned in the performance criteria and range of Variables
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Types of mobile phone servicing manuals 2.2 Identification of Signs and Symbols 2.3 Identification of Units of Measurement 2.4 Identification of Units of Conversion 2.5 Drawings and Specifications 2.6 Terms and Abbreviations Used
3. Underpinning skill	3.1 Identifying appropriate manuals 3.2 Identifying drawings and specifications 3.3 Interpreting drawings and specifications 3.4 Storing manuals
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace

5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Availability of all manuals 5.3 Accessibility of storage area
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module 7.2 Assessment should be done by a NSD certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Title	**Interpret and inspect common parts and attachments of mobile phone**
Unit Code	**OU-MPS-03-L2-V1**
Nominal Hours	**30 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to Interpret and inspect common parts and attachments of mobile phone. It specifically includes tasks of disassembling mobile phone, identifying common parts of mobile phone, interpreting functions of common parts and listing types of attachments used in mobile phone.
Elements of Competency	**Performance Criteria** **Bold & underlined** terms are elaborated in the Range of Variables
1. Disassemble mobile phone	1.1 Tools and equipment are selected and collected 1.2 Personal Protective Equipment (PPE) is used 1.3 Mobile phone is disassembled as per service manual
2. Identify common parts of mobile phone	2.1 **Common parts** of mobile phone are identified 2.2 Common parts of mobile phone are listed 2.3 Common parts of mobile phone are comprehended
3. Interpret functions of Common parts	3.1 Functions of Common parts are listed 3.2 Functions of Common parts are interpreted 3.3 Re-assemble the mobile phone as per service manual 3.4 Tools and materials are cleaned and stored. 3.5 The workplace is cleaned as per workplace standard
4. List types of attachments used in mobile phone	4.1 **Attachment used in mobile phone** are listed 4.2 Attachments used in mobile phone are identified
Range of Variables	
Variable	**Range** (May include but not limited to)
1. Attachments used in mobile phone	1.1 Earphone 1.2 Charger 1.3 Communication Cables 1.4 Battery 1.5 Bluetooth Device 1.6 Wireless Charger 1.7 Power Bank
2. Common parts	2.1. Fuses 2.2. Inductor

	2.3. Capacitor 2.4. Resistor 2.5. Camera 2.6. Sensor 2.7. Diode 2.8. LED 2.9. Regulator IC 2.10. Touch IC 2.11. Charging IC 2.12. Power IC 2.13. USB IC 2.14. Audio IC 2.15. Backlight IC 2.16. Baseband IC 2.17. Storage IC 2.18. Wi-Fi / Bluetooth IC 2.19. Processor 2.20. NFC IC 2.21. PA 2.22. Antenna Switch 2.23. RF IC 2.24. RX/TX IC 2.25. Rotation IC 2.26. Receiver 2.27. Speaker 2.28. Transistor. 2.29. Microphone. 2.30. Display (Monitor) 2.31. Switch 2.32. Camera 2.33. Finger sensor 2.34. Face ID 2.35. Home button 2.36. Receiver 2.37. Battery 2.38. Speaker 2.39. Housing 2.40. Microphone 2.41. Volume button 2.42. Silent button 2.43. Flash light

Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified common parts of mobile phone 1.2 listed common parts of mobile phone 1.3 interpreted functions of common parts
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 List of major parts of mobile phone 2.2 Functions of major parts of mobile phone 2.3 Attachments of mobile phone
3. Underpinning skill	3.1 Identifying common parts of mobile phone 3.2 Listing common parts of mobile phone 3.3 Interpreting functions of common parts 3.4 Interpreting attachments of mobile phone
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Mobile Phone 5.3 Mobile Phone attachments 5.4 Service Manuals
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module. 7.2 Assessment should be done by a NSDA certified / nominated assessor

Accreditation Requirements

Training Providers must be accredited by NSDA. the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Title	**Recognize Common Symptoms, Cause and Repair Methods of Mobile phone**
Unit Code	**OU-MPS-04-L2-V1**
Nominal Hours	**40 Hours**
Unit Descriptor	This unit covers knowledge, skills and attitudes required to recognize common symptoms, cause and repair methods of mobile phone. It specifically includes the tasks of recognize mobile phone power issues, audio issues, display issues, charging issues, network issues, battery issues and software issues in the workplace.
Elements of Competency	**Performance Criteria** ***Bold* & *Italicized*** terms are elaborated in the Range of Variables
1. Recognize mobile phone power issues	1.1 **Symptoms of power issues** are identified; 1.2 Methods of repairing power issues are identified;
2. Recognize Audio issues	2.1 **Symptoms of audio issues** are identified 2.2 Audio issues repairing methods are identified
3. Recognize Display issues	3.1 **Symptoms of Display issues** are identified 3.2 Methods of repairing Display issues are identified
4. Recognize Charging issues	4.1 **Symptoms of Charging issues** are identified 4.2 Methods of repairing Charging issues are identified
5. Recognize Network issues	5.1 **Symptoms of Network issues** are identified 5.2 Methods of repairing Network issues are identified
6. Recognize Battery issues	6.1 **Symptoms of Battery issues** are identified 6.2 Methods of repairing Battery issues are identified
7. Recognize Software issues	7.1 **Symptoms of Software issues** are identified 7.2 Methods of repairing Software issues are identified
Range of Variables	
Variable	**Range** (May include but not limited to):
1. Symptoms of Power issues	1.1 No power 1.2 Stuck on Logo 1.3 Boot Loop 1.4 Restart 1.5 Auto Power Off

2. Symptoms of audio issues	2.1 Speaker not functioning 2.2 Receiver not functionating 2.3 Microphone not functioning 2.4 Headphone not working
3. Symptoms of Display issues	3.1 Broken display 3.2 No light on display 3.3 Display flickering 3.4 Touch/glass broken
4. Symptoms of Charging issues	4.1 Not charging 4.2 Charge not stores 4.3 Charging port problem 4.4 Slow charging
5. Symptoms of Network issues	5.1 Searching/no service/emergency 5.2 Call drop/call failed 5.3 Weak network signal
6. Symptoms of battery issues	6.1 No power 6.2 Not charging 6.3 Sudden power off 6.4 Battery quick drain 6.5 Restarting problem 6.6 Physical damage of battery 6.7 Battery status failed
7. Symptoms of software issues	7.1 No power 7.2 Stuck on boot logo 7.3 Boot loop 7.4 Restarting problem 7.5 Handset slow response 7.6 Locked phone

Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical Aspects of Competency	Assessment required evidence that the candidate: 1.1 Identified problems of power issues, audio issues, display issues, charging issues, network issues, battery issues and software issues 1.2 Identified repairing methods of power issues, audio issues, display issues, charging issues, network issues, battery issues and software issues
2. Underpinning Knowledge	Trainee will acquire knowledge of: 2.1 Symptoms of common problems 2.2 Repairing methods of common problems
3. Underpinning Skills	3.1 Identifying problems of power issues, audio issues, display issues, charging issues, network issues, battery issues and software issues 3.2 Identifying repairing methods of power issues, audio issues, display issues, charging issues, network issues, battery issues and software issues
4. Underpinning Attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource Implications	The following resources must be provided: 5.1 Workplace (simulated or actual) 5.2 Mobile Phone 5.3 Service Manuals 5.4 Presentations 5.5 Learning manuals

6. Methods of Assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by NSDA. the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Title	Test component of Smart phone
Unit Code	OU-MPS-05-L2-V1
Nominal Hours	40 Hours
Unit Descriptor	This unit covers the skills, knowledge and attitudes required to test electronic components. It specifically includes identifying basic electronic components, determining testing criteria, planning testing approach, and testing components.
Elements of competency	Performance Criteria **Bold & Underlined** words are elaborated in the Range of Variables
1. Prepare for servicing and maintenance works	1.1 Personal protective equipment (PPE) is used and OSH is followed; 1.2 Work instructions are interpreted to determine job requirements; 1.3 Tools and equipment are selected in accordance with job requirements; 1.4 Workplace is prepared for testing activities; 1.5 Repairing instruments are calibrated as per work requirement; 1.6 Materials are selected as per job requirement;
2. Disassemble mobile phone.	2.1 Disassemble system is observed 2.2 Screws, lock position and FPC (Flexible Printed Circuit) Connections (If Applicable) in mobile phone is identified. 2.3 Front and rear parts of mobile phone is identified where adhesive is used 2.4 Location of battery, SIM and memory card are identified and removed by following procedure 2.5 Front and rear part of mobile phone is separated one by one 2.6 Mobile phone PCBA (Printed Circuit Board Assembly) is unscrewed 2.7 Particular screws are placed in particular position 2.8 Connected flex are disconnect from PCBA 2.9 PCBA is disconnected from housing 2.10 Display is disconnected as per standard
3. Test components	3.1 Components are selected for Test 3.2 **Testing equipment** are selected 3.3 Test are performed as per standard 3.4 Mobile phone is reassembled as per standard
4. Clean and store the tools	4.1 Tools and materials are cleaned and stored. 4.2 The workplace is cleaned as per workplace standard

Range of Variables	**Range** (Included but not limited to):
1. Test equipment	1.1 Multimeter 1.2 LCR Meter 1.3 Thermal camera 1.4 Microscope
EVIDENCE GUIDE	
1. Critical aspects at competency.	Assessment must evidence that the candidate: 1.1 Determined testing criteria 1.2 Planned testing approach 1.3 Tested components 1.4 Evaluated testing process
2. Underpinning knowledge	2.1 Tools and equipment 2.2 Electrical components 2.3 Principles of electronic circuitry 2.4 Materials 2.5 Testing criteria 2.6 Testing methods 2.7 Quality requirements 2.8 Recording systems 2.9 Standard operating procedure 2.10 Manufacturer's specifications
3. Underpinning Skills	3.1 Determining testing criteria 3.2 Identifying testing methods 3.3 Planning testing approach 3.4 Conducting component testing 3.5 Recording testing findings 3.6 Resolving problems and faults 3.7 Evaluating product
4.Required Attitude	4.1 Tidy and punctual 4.2 Prompt in carrying out activities 4.3 Sincere and honest concerning duties 4.4 Active on teamwork 4.5 Eager to learn 4.6 Concerned for proper use of tools 4.7 Committed to occupational health and safety practices 4.8 Respectful of peers, subordinates and seniors in the workplace

5.Resource Implication.	The following resources must be provided: 5.1 Workplace (simulated or actual) 5.2 Personal protective equipment (PPE) 5.3 Tools and testing devices 5.4 Work bench 5.5 Mobile components 5.6 Job specifications 5.7 Manufacturer's specifications 5.8 Standard operating procedure 5.9 Learning manual
6.Method assessment.	Competency must be assessed by- 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning
7.Context assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification.

Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Title	**Replace SMD (Surface Mounting device) Components**
Unit Code	**OU-MPS-06-L2-V1**
Nominal Hours	**60 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to replace SMD (surface mounting device) components. It specifically includes the tasks of preparing for servicing and maintenance works, testing and replacing SMD components in the workplace.
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Prepare for replacing SMD components	1.1 Personal protective equipment (PPE) is used and OSH is followed; 1.2 Work instructions are interpreted to determine job requirements; 1.3 Tools and equipment are selected in accordance with job requirements; 1.4 Workplace is prepared for servicing activities; 1.5 Repairing instruments are calibrated as per work requirement; 1.6 Materials are selected as per job requirement; 1.7 ESD wristband and ESD Mat are used;
2. Test and replace SMD components	2.1 Mobile phone is disassembled as per sequence 2.2 SMD components are checked 2.3 Faulty SMD components are identified 2.4 Spare **SMD component** are selected and collected 2.5 SMD components are replaced as per standard 2.6 Mobile phone is reassembled as per sequence 2.7 Mobile phone's functions are tested
3. Clean and store the tools	3.1 Tools and materials are cleaned and stored. 3.2 The workplace is cleaned as per workplace standard

Range of Variables	
Variable	**Range** (May include but not limited to)

1. SMD components	1.1 IC 1.2 Fuse 1.3 Inductor 1.4 Capacitor 1.5 Resistor 1.6 Coupler 1.7 Sensor 1.8 Diode 1.9 LED 1.10 Microphone 1.11 Switch 1.12 Connector
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Maintained disassembling and re assembling procedure; 1.2 Identified electronic symbols and SMD components; 1.3 SMD components are tested; 1.4 SMD components are replaced;
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Procedure of disassembling and re-assembling; 2.2 function of SMD components; 2.3 Procedure of replace SMD components;
3. Underpinning skills	3.1 Disassembling and assembling of mobile phone; 3.2 Identifying SMD components of mobile phone; 3.3 Testing SMD components; 3.4 Replaced SMD components;

4. Required attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Note 5.3 Instruction sheet 5.4 Safety manual 5.5 Soldering and de-soldering tools and materials 5.6 Hot gun 5.7 Multimeter (Analog and digital) 5.8 Power supply unit 5.9 Mobile phone set
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification.

Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Title	**Apply Concept of install Driver and Update Firmware**
Unit Code	**OUMPS007L2V1**
Nominal Hours	**20 hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to apply concept of install driver and update firmware. It specifically includes the tasks of preparing for task to be undertaken; using internet; identifying website and firmware; downloading firmware & drivers; and installing firmware & drivers.
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the range of variables
1. Prepare for task to be undertaken	1.1 Safe work practices observed in accordance with occupational health and safety (OHS) requirements 1.2 **Appropriate equipment** is selected according to the requirement of internet connectivity 1.3 Browsing software is selected according to task requirement
2. Use Internet	2.1 Web sites are identified for browsing information according to necessity 2.2 User Account is opened as per specified sequence 2.3 specific E-mail ID is logged-in as per specified sequence 2.4 information is received and sent in accordance with specified process
3. Identify website and firmware	3.1 Required website is identified in accordance with work requirement 3.2 Search engine is used to find information of unidentified website 3.3 Search engine is used to find required firmware according to requirements
4. Download firmware & drivers	4.1 Required **firmware** & **drivers** and files are selected in accordance with work requirement 4.2 Firmware & drivers are downloaded as per standard procedure 4.3 Firmware & drivers are saved in specified PC drive or folder

5. Install drivers & Upgrade firmware	5.1 Phone is put to **Required Mode** 5.2 Mobile is connected to the PC 5.3 Required drivers is installed 5.4 Installed drivers is checked and ensured 5.5 Ensured flashing tools are detected the mobile phone 5.6 Similar or update version of firmware is checked 5.7 Firmware is flashed
RANGE OF VARIABLES	
Variable	**Range** (Included but not limited to):
1. Appropriate Equipment	1.1 Personal computers 1.2 Communication equipment (OTG, USB, Power Supply Cables) 1.3 Software Interface Devices 1.3.1 Z3X Box 1.3.2 Infinity Box 1.3.3 Octoplus Box 1.3.4 Smart Clip 1.3.5 Sigma Key Box 1.3.6 UFI Box 1.3.7 UMT Dongle 1.4 Memory card. 1.5 Card Reader 1.6 Unlock Smart Card 1.7 GEVEY Smart Chip
2. Firmware	2.1. Samsung - .md5/.tar 2.2. iPhone - .ipsw/dmg 2.3. MTK - .scatter / bin 2.4. SPD - .Pac / bin 2.5. Qualcomm - .tgz
3. Drivers	Mobile flashing connectivity driver 3.1 Android ADB driver 3.2 Android diagnostic driver 3.3 Qualcomm driver 3.4 PL-2303 Driver 3.5 MTK USB Driver 3.6 SPRD NPI USB Driver
4. Require Flash Mode	4.1. Odin Mode 4.2. Fastboot mode

	4.3. EDL Mode 4.4. Recovery Mode 4.5. DFU Mode 4.6. Adb mode
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 Selected and used hardware components correctly and according to the task requirement 1.2 Received and sent data through internet 1.3 Used search engine to download specific software. 1.4 Used software as per work requirement
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Storage devices and basic categories of memory 2.2 General security 2.3 Difference between website and search engine 2.4 Software installation system 2.5 Fundamental of simulation software
3. Underpinning skills	3.1 Browsing 3.2 Receiving and sending mails 3.3 Using search engine 3.4 Applying techniques of down loading software 3.5 Installing software 3.6 Using software
4. Required Attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn

	4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors at workplace
5. Resource implications	The following resources must be provided. 5.1 Workplace (actual or simulated) 5.2 Equipment relevant to the proposed activity 5.3 All tools, equipment, material and documentation required 5.4 Relevant specifications or work instructions
6. Method of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor
Accreditation Requirements Training Providers must be accredited by NSDA, the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

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The Competency Standards for National Skills Certificate in **Mobile Phone Servicing** is Developed by NSDA on 05-09 December, 2021.

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This Competency Standard for **Mobile Phone Servicing** is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

This document is owned by the National Skills Development Authority (NSDA) of the People's Republic of Bangladesh, developed in association with **Light Engineering Industry Skills Councils (LEISC)**

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COMPETENCY STANDARD

FOR

Mobile Phone Servicing

(Light Engineering Industry Skills Council)

Level: 1

Competency Standard Code: CS-LE-MPS-L1-EN-V1

National Skills Development Authority
Prime Minister's Office, Bangladesh

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Introduction

The National Skills Development Authority (NSDA) aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. "**Mobile Phone Servicing** " is selected as one of the priority occupations of **Light Engineering** Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in skills training. Trainees who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (NSQF) and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the competency standard for an occupation which is comprised of units of competence and its corresponding elements.

Overview

A competency standard (CS) is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing individuals' skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, key Institutions, ISCs, and industry experts to identify the competencies required for the occupation.

It describes the skills, knowledge and attitude needed to perform effectively in the workplace. It acknowledges that individuals can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it. With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- unit code
- nominal duration
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all units of competency for the relevant occupation, trade or job including the unit codes and the unit of competency titles and corresponding elements;
- the competency standard that includes the unit of competency, unit descriptor, elements and performance criteria, range of variables, curricular content guide and assessment evidence guide;

Level descriptors of NTVQF/ NSQF (BNQF 1-6)

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6 Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5 Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4 Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3 Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2 Semi-Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

Approval of Competency Standard

Name and Designation	Signature
Dulal Krishna Saha Executive Chairman (Secretary) National Skills Development Authority	
Md. Nurul Amin Member (Registration & Certification) Joint Secretary National Skills Development Authority	17.01.22
Quamrun Naher Siddiqua Member (Coordination & Assessment) Joint Secretary National Skills Development Authority	19.1.2022
Dr. Md. Ziauddin Member (Admin & Finance) Joint Secretary National Skills Development Authority	
Alif Rudaba Member (Planning & Skills Standard) Joint Secretary National Skills Development Authority	19.1.2022

List of Abbreviations

General	
NSDA	National Skills Development Authority
BMET	Bureau of Manpower Employment and Training
ILO	International Labor Organization
ISC	Industry Skills Council
NPVC	National Pre-Vocation Certificate
NSQF	National Skills Qualifications Framework
PPP	Public Private Partnership
SCVC	Standards and Curriculum Validation Committee
SEIP	Skills for Employment Investment Program
STP	Skills Training Provider
UoC	Unit of Competency
Occupation Specific	
BGA	Ball Grid Array
DC	Direct current
EMI	Electro-magnetic interference
ESD	Electro-static discharge
IC	Integrated circuit
IT	Information technology
KPI	Key performance indicator
LCD	Liquid Crystal Display
OHS	Occupational health and safety
PPE	Personal protective equipment
RAM	Random Access Memory
RF	Radio frequency
SMD	Surface mounted device
USB	Universal serial bus

Course Structure

For

National Certificate in Mobile Phone Servicing (NSQF LEVEL 1)

Sl. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic (1 UoCs required)				**15**
1.	GU002L2V1:	Apply Occupational Safety and Health (OSH) Procedure in the Workplace	1	15
Sector Specific (1 UoCs required)				**30**
2	SULE001L1V1	Identify tools, equipment and materials for mobile phone servicing	1	30
Occupation Specific – Compulsory (7 UoCs required)				**315**
3	OUMPS001L1V1	Apply Basic Concepts of Electricity	1	20
4	OUMPS002L1V1	Practice Soldering and De Soldering	1	60
5	OUMPS003L1V1	Disassemble And Reassemble of Basic Mobile Phone	1	30
6	OUMPS004L1V1	Identify Components of Basic Mobile Phone	1	40
7	OUMPS005L1V1	Test Component of Basic Mobile Phone	1	50
8	OUMPS006L1V1	Service Basic Mobile Phone	1	95
9	OUMPS007L1V1	Apply Software Installation Concept of Basic Mobile Phone	1	20
Total Nominal Learning Hours				**360**

Units & Elements at a Glance:

Generic Competencies (15 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
GU002L2V1:	Apply Occupational Safety and Health (OSH) Procedure in the Workplace	1. Identify OSH policies and procedures. 2. Follow OSH procedure 3. Report hazards and risks. 4. Respond to emergencies 5. Maintain personal well-being	15
Total Hour			**15**

Sector Specific Competencies (20 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
SULE001L1V1	Identify tools, equipment and materials for mobile phone servicing	1. Follow OSH practices 2. Use tools properly and safely 3. Use equipment properly and safely 4. Use materials properly and safely 5. Clean and maintain tools and equipment	30
		Total Hours	**20**

Occupation Specific Competencies (255 Hours)

Code	Unit of Competency	Elements of Competency	Hours
OUMPS001L1V1	Apply fundamentals skills for electrical works	1. Prepare for works 2. Identify types of tools/equipment 3. Identify symbols of electrical fittings 4. Identify fittings used in electrical works 5. Measure Current 6. Measure Voltage 7. Maintain workplace, tools, equipment and materials	20
OUMPS002L1V1	Practice soldering and de soldering	1. Solder wire and components 2. De solder components from copper strip board 3. Clean tools and equipment	60
OUMPS003L1V1	Dis-assembling and re-assembling of basic mobile phone	1. Prepare for servicing and maintenance works 2. Disassemble mobile phone. 3. Re-assemble the mobile phone 4. Clean tools and equipment.	30
OUMPS004L1V1	Identify components of basic mobile phone	1. Follow OSH Practice 2. Identify the sections 3. Identify the components 4. Clean tools and equipment	40
OUMPS005L1V1	Test component of basic mobile phone	1. Identify basic electronic components 2. Determine testing criteria 3. Plan testing approach 4. Test components	50
OUMPS006L1V1	Service basic mobile phone	1. Disassemble mobile phone 2. Prepare for servicing and maintenance works 3. Test components 4. Replace faulty components 5. Re-assemble mobile phone 6. Clean and store the tools and materials and clean the workplace	95
OUMPS007L1V1	Apply software installation concept of basic mobile phone	1. Prepare for task to be undertaken 2. Collected flash file, flash tool and drivers 3. Install drivers & upgrades flash files	20
		Total Hours	**315**

Generic Competencies

Unit Code and Title	**GU002L2V1: Apply Occupational Safety and Health (OSH) Procedure in the Workplace**
Unit Descriptor	This unit covers the knowledge, skills and attitudes (KSA) required in applying occupational safety and health (OSH) procedures in the workplace. It specifically includes – identifying OHS policies and procedures, following OSH procedure, reporting to emergencies, and maintaining personal well-being.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Identify OSH policies and procedures.	1.1. **OHS policies** and **safe operating procedures** are accessed and stated. 1.2. **Safety signs and symbols** are identified and followed. 1.3. Emergency response, evacuation procedures and other contingency measures are determined according to workplace requirements.
2. Follow OSH procedure	2.1 **Personal protective equipment (PPE)** is selected and collected as required. 2.2 Personal protective equipment (PPE) is correctly used in accordance with organization OHS procedures and practices. 2.3 A clear and tidy workplace is maintained as per workplace standard. 2.4 PPE is maintained to keep them operational and compliant with OHS regulations.
3. Report hazards and risks.	3.1 **Hazards** and risks are identified, assessed and controlled. 3.2 Incidents arising from hazards and risks are reported to designated authority.
4. Respond to emergencies	4.1 Alarms and warning devices are responded. 4.2 Workplace **emergency procedures** are followed. 4.3 **Contingency measures** during workplace accidents, fire and other emergencies are recognized and followed in accordance with organization procedures. 4.4 Frist aid procedures is applied during emergency situations.
5. Maintain personal well-being	5.1 OHS policies and procedures are adhered to. 5.2 OHS awareness programs are participated in as per workplace guidelines and procedures. 5.3 Corrective actions are implemented to correct unsafe condition in the workplace. 5.4 **"Fit to work" records** are updated and maintained according to workplace requirements.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. OHS Policies	1.1. Bangladesh standards for OHS 1.2. Fire safety rules and regulations 1.3. Code of practice 1.4. Industry guidelines
2. Safe operating procedures	2.1 Orientation on emergency exits, fire extinguishers, fire escape, etc. 2.2 Emergency procedures 2.3 First aid procedures 2.4 Tagging procedures

	2.5 Use of PPE 2.6 Safety procedures for hazardous substances
3. Safety Signs and symbols	3.1 Direction signs (exit, emergency exit, etc.) 3.2 First aid signs 3.3 Danger tags 3.4 Hazard signs 3.5 Safety tags 3.6 Warning signs
4. Personal Protective Equipment (PPE)	4.1 Gas mask 4.2 Gloves 4.3 Safety boots 4.4 Face mask 4.5 Overalls 4.6 Goggles and safety glasses 4.7 Sun block 4.8 Chemical/Gas detectors
5. Hazards	5.1 Chemical hazards 5.2 Biological hazards 5.3 Physical Hazards 5.4 Mechanical and Electrical Hazard 5.5 Mental hazard 5.6 Ergonomic hazard
6. Emergency Procedures	6.1 Fire fighting 6.2 Earthquake 6.3 Medical and first aid 6.4 evacuation`
7. Contingency measures	7.1 Evacuation 7.2 Isolation 7.3 Decontamination
8. "Fit to Work" records	8.1 Medical Certificate every year 8.2 Accident reports, if any 8.3 Eye vision certificate

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency

1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 stated OHS policies and safe operating procedures 1.2 followed safety signs and symbols 1.3 used personal protective equipment (PPE) 1.4 maintained workplace clear and tidy 1.5 assessed and Controlled hazards 1.6 followed emergency procedures 1.7 followed contingency measures 1.8 implemented corrective actions

2. Underpinning knowledge	2.1 Define OHS 2.2 OHS Workplace Policies and Procedures 2.3 Work Safety Procedures 2.4 Emergency Procedures 2.5 Hazard control procedure 2.6 Different types of Hazards 2.7 PPE and there uses 2.8 Personal Hygiene Practices 2.9 OHS Awareness
3. Underpinning skills	3.1 Accessing OHS policies 3.2 Handling of PPE 3.3 Handling cleaning tools and equipment 3.4 Writing report 3.5 Responding to emergency procedures
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Sincere and honest to duties 4.3 Promptness in carrying out activities 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
5. Resource implications	5.1 Adequate workplace 5.2 Equipment and outfits appropriate in applying safety measures 5.3 Tools, materials and documentation required 5.4 OHS Policies and Procedures
6. Methods of assessment	6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor.

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Sector Specific Competencies

Unit Code and Title	SULE001L1V1: Identify Tools, Equipment and Materials for Mobile Phone Servicing
Nominal Hours	**30 Hours**
Unit Descriptor	This unit covers the skills, knowledge and attitudes required to Identify tools, equipment and materials for mobile phone servicing. It specifically includes the tasks of following OSH practices, using tools, equipment and materials properly and safely in the workplace.
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables.
1.Follow OSH (Occupational safety and health) practices	1.1 Safe work practices are followed 1.2 **Personal Protective Equipment** (PPE) is used. 1.3 **Hazards** at workplace is identified and eliminated;
2.Use tools properly and safely	2.1 Appropriate **tools** are selected; 2.2 Safety precautions are ensured before using tools. 2.3 Unsafe or faulty tools are identified and marked for repair. 2.4 Tools is used properly and safely to perform work activity.
3.Use equipment properly and safely	3.1 Appropriate equipment is selected; 3.2 **Equipment** is identified, collected and documented; 3.3 Safety precautions are ensured before using equipment; 3.4 Unsafe or faulty equipment are identified and marked for repair. 3.5 Equipment is checked before use. 3.6 Equipment is use properly and safely to perform work activity.
4.Use materials properly and safely	4.1 **Materials** are identified; 4.2 Materials are selected and collected; 4.3 Safety precautions are ensured before using materials; 4.4 Materials are used;
5.Clean and maintain tools and equipment	5.1 Dust and foreign matter are removed from tools and equipment in accordance to workplace standards. 5.2 Condition of tools and equipment is checked after use and reported. 5.3 Defective tools and equipment are inspected and repaired or replaced. 5.4 Tools and equipment are stored and secured in accordance with workplace requirements.

Range of Variables	
Variables	**Range** (may include but not limited to):
1. PPE.	1.1 Mask 1.2 Gloves 1.3 Safety shoes 1.4 Apron 1.5 Goggles and safety glasses 1.6 Smoke absorber 1.7 Floor mat 1.8 ESD wrist band
2.Hazards	2.1. Chemical hazards 2.2. Biological hazards 2.3. Physical Hazards 2.4. Mechanical and Electrical Hazard 2.5. Mental hazard 2.6. Ergonomic hazard
3.Tools	3.1 Hand Tools 3.1.1. Soldering Iron; 3.1.2. PCB Holder/PCB stand; 3.1.3. Blade cutter. 3.1.4. Point cutter. 3.1.5. Nose Pliers. 3.1.6. Precision screw driver set. 3.1.7. Tweezers. 3.1.8. Brush. 3.1.9. Magnifying lamp. 3.1.10. Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 3.1.11. Cleaning sponge. 3.1.12. SIM Ejector 3.2 Power Tools 3.2.1. Electric Screwdriver 3.2.2. Mini Grinding Machine

4.Equipment	4.1 PC/Laptop 4.2 Multi-meter (Analog / Digital). 4.3 SMD Rework Station 4.4 Soldering Iron 4.5 Quick Charger 4.6 Battery Activation Circuit 4.7 DC power supply. 4.8 Magnifying Glass 4.9 Oscilloscope 4.10 Mobile charger. 4.11 Short Killer 4.12 OTG, USB, Power Supply Cables 4.13 SIM card. 4.14 Memory card.
5.Materials	5.1 Duster, flux remover. 5.2 Iso Propyl Alcohol (IPA). 5.3 Contact cleaner. 5.4 Solder wire 5.5 Thinner. 5.6 Jumper wire. 5.7 Flux paste. 5.8 De-Soldering wire. 5.9 Heat Resistance Tape 5.10 Soldering Iron Bit/ Cartridge 5.11 Adhesive
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified and selected appropriate tools, equipment and materials for work to be performed 1.2 identified and used tools, equipment and materials appropriate to work activity 1.3 followed safety precautions when using tools, equipment and materials 1.4 operated tools, equipment and materials safely and pursuant to manufacturer's operating specification 1.5 performed cleaning and maintenance of tools, equipment and materials after use and prior to storing
2. Underpinning knowledge	2.1 Information on types of tools used for mobile phone servicing, their functions and use; 2.2 Information on types of equipment used for mobile phone servicing, their functions and use; 2.3 Information on types of materials used for mobile phone servicing; 2.4 Procedures for safely using hand and power tools

3. Underpinning skills	3.1 Identifying tools, equipment and materials used for mobile phone servicing; 3.2 Following safety precautions when using tools, equipment and materials; 3.3 Using tools and equipment correctly and safely in accordance with manufacturer's operating specification 3.4 Operating equipment correctly and safely in accordance with manufacturer's operating specification 3.5 Cleaning and maintaining tools after use;
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Tidiness and timeliness 4.6 Concerned for proper use of tools
5. Resource implications	The following resources must be provided 5.1 Workplace (simulated or actual) 5.2 Hand tools 5.3 Power tools 5.4 Measuring tools 5.5 Projector 5.6 Stationary 5.7 Learning manual
6. Methods of assessment	Competency should be assessed by 6.1 Demonstration 6.2 Oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Occupation Specific Competencies

Unit Code and Title	**OUMPS001L1V1: Apply Fundamentals Skills for Electrical Works**
Nominal Hours	**20 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to apply fundamental skills for electrical works. It specifically includes the tasks of preparing for works, identifying types of tools/equipment, symbols of electrical fittings, fittings used in electrical works. measuring current, voltage and Maintain workplace, tools, equipment and materials.
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables.
1. Prepare for works	1.1. **PPE** is collected and worn as per job requirement 1.2. Workplace is prepared as per job requirement 1.3. **Tools** are selected and collected as per job requirement
2. Identify types of tools/equipment	2.1 Collected Tools/equipment are displayed 2.2 Tools are listed and tagged as per tool specification
3. Identify symbols of electrical fittings	3.1 Electrical **symbols** are listed 3.2 Symbols are matched with listed symbol as per drawing 3.3 Symbols are tagged by match with the fittings
4. Identify fittings used in electrical works	4.1 **Fittings** are collected and displayed 4.2 Fittings are listed and tagged 4.3 Fittings are matched with listed fitting as per drawing
5. Measure Current	**Using ampere meter** 5.1 Insulation of cable terminal is removed using knife or wire stripper as required 5.2 Range of Ammeter is set as per job requirement 5.3 The ampere meter is connected in series with the load as per circuit diagram 5.4 Power supply switch is kept on as maintaining SOP 5.5 Ampere meter reading is recorded **Using clip-on meter** 5.6 Selector knob is adjusted of clip-on meter as required 5.7 Phase cable is inserted into the ring of the clip-on meter 5.8 Ampere meter reading is recorded 5.9 Clip-on meter is disconnected from the phase line as required
6. Measure Voltage	**Using Volt meter** 6.1 Insulation of cable terminal is removed using knife or wire stripper as required 6.2 Range of voltmeter is set as per job requirement 6.3 Voltmeter is connected in parallel with the load as per circuit diagram 6.4 Power supply is switched ON as required 6.5 Volt meter reading is recorded **Using AVO/Multi meter** 6.6 AVO/Multi meter pointer/scale is adjusted 6.7 Selector switch of AVO/Multi meter is kept in AC voltage range as required 6.8 AVO/Multi meter is connected to probe/test cord with supply line (phase to phase or phase to neutral) as per circuit diagram

	6.9 AVO/Multi meter reading is recorded 6.10 Power supply is disconnected as required
7. Maintain workplace, tools, equipment and materials	7.1 Tools, equipment and materials are cleaned as per SOP 7.2 Defective tools and equipment are identified, separated and reported to the designated person 7.3 Tools, equipment and materials are stored as per workplace procedure 7.4 Workplace is cleaned as per SOP 7.5 Waste materials are disposed in the designated place
Range of Variables	
Variables	**Range** (may include but not limited to):
1. PPE	1.1. Helmet 1.2. Safety Goggles 1.3. Mask 1.4. Apron 1.5. Rubber Gloves 1.6. Safety Shoes
2. Tools	**Hand tools:** 2.1 Hammer 2.2 Cutting Pliers 2.3 Nose Pliers 2.4 Combination Pliers 2.5 Adjustable Wrench 2.6 Wire Striper 2.7 Neon Tester 2.8 Screw Driver (Flat, star and connecting) 2.9 Grip Pliers 2.10 Electrician Knife 2.11 Chisel (Cold and hot) 2.12 Open end spanner 2.13 Poker 2.14 Twisters 2.15 Scriber 2.16 File (Round, half round, flat, triangle) 2.17 Ammeter 2.18 Volt meter 2.19 Multi Meter 2.20 Measuring tape **Power tools:** 2.28 Drill Machine (Manual and Electrical) 2.29 Grinding Machine **Accessories:** 2.30 Ladder
3. Symbols	3.1 All electrical fittings and fixtures
4. Fittings	4.1 Switch 4.2 Switch Board 4.3 Regulator 4.4 Socket 4.5 Holder 4.6 Ceiling Rose

	4.7 Junction Box 4.8 Channel 4.9 PVC Conduit 4.10 PVC Elbow 4.11 PVC Bend 4.12 PVC Socket 4.13 Circular Box 4.14 Saddle 4.15 Indicator
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidences that the candidate: 1.1 followed Occupational Safety and Health Procedure in the workplace 1.2 identified and collected tools, equipment, symbols and fittings 1.3 used tools, equipment and Fittings as per standard 1.4 connected ampere meter with load and measured current 1.5 inserted phase cable into the ring of the clip-on meter and measure current 1.6 connected volt meter with the load and measured voltage 1.7 connected AVO meter to supply line and measured voltage 7.6 cleaned tools, equipment and materials 1.8 disposed waste materials in designated place
2. Underpinning knowledge	2.1 Specification of tools, equipment and fittings. 2.2 Identification and use of symbols. 2.3 Series circuit 2.4 Parallel circuit 2.5 Measurement of current 2.6 Measurement voltage 2.7 Definition of Preventive Maintenance, Methods and Techniques, Quality Procedures 2.8 Storing Procedures 2.9 Function and properties of fittings 2.10 Functions and safety precaution of tools
3. Underpinning Skills	3.1 Using PPE 3.2 Using Tools, Equipment and Materials 3.3 Selecting appropriate Tools, Equipment and fittings 3.4 Checking specifications 3.5 Locating and marking points 3.6 Handling of measuring instruments
4. Underpinning attitudes	4.1 Commitment to occupational safety and health 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace

5. Resource implications	The following resources must be provided: 5.1 Workplace location. 5.2 Tools and equipment are available. 5.3 Materials relevant to work activity. 5.4 Drawing and specifications relevant to the task.
6. Methods of assessment	Competency should be assessed by: 6.1 Demonstration 6.2 Oral questioning 6.3 Written test 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	OUMPS002L1V1: Practice Soldering and De soldering
Nominal Hours	**60 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to practice soldering and de soldering in the workplace. It specifically includes the tasks of soldering, and de-soldering components of mobile phone in the workplace.
Elements of competency	**Performance Criteria** **Bold & Underlined** words are elaborated in the range of variables
1. Prepare for Soldering	1.1 **Personal protective equipment** (**PPE**) is used 1.2 OSH is followed; 1.3 Work instructions are interpreted to determine job requirements; 1.4 Workplace is prepared for soldering activities;
2. Perform soldering	2.1 PPE is selected and used 2.2 Tools, equipment and materials are collected for soldering. 2.3 Wires are cut and insulation removed as per measurement. 2.4 Twisted wires are tinned and joined by soldering. 2.5 Copper strip board is cleaned. 2.6 **Components** are set on PCB as per requirements. 2.7 Components are joined on copper strip board by soldering. 2.8 Soldering is checked as per instruction.
3. De-solder components	3.1 Tools, equipment and materials are collected for de soldering. 3.2 Joints are picked up clearly. 3.3 Jumper is picked up from copper strip board. 3.4 De-soldering tool is applied. 3.5 De-soldering is performed as per instruction.
4. Clean tools and equipment.	4.1 Equipment is cleaned and maintained as per instruction manual 4.2 Equipment is stored safely in appropriate location according to standard workshop procedures 4.3 Unsafe or faulty equipment are identified and marked for repair after use according to current procedures

Range of Variables

Variable	**Range** (Included but not limited to):
1. PPE	1.1 Mask 1.2 Gloves 1.3 Safety shoes 1.4 Apron 1.5 Goggles and safety glasses 1.6 Smoke absorber 1.7 Floor mat 1.8 ESD wrist band
2. Component	2.1 Battery. 2.2 Resistor 2.3 Connecting wires 2.4 Transistor. 2.5 Different kinds of capacitors 2.6 Diode 2.7 SCR 2.8 LED 2.9 Speaker 2.10 Microphone 2.11 Vibrator 2.12 Receiver 2.13 Inductor

EVIDENCE GUIDE	
1. Critical aspects at competency.	Assessment required evidence that the candidate: 1.1 applied safety rules and used PPE. 1.2 soldered wire and components 1.3 de-solder components from copper strip board
2. Underpinning knowledge	2.1 OSH and safety rules 2.2 Soldering technique 2.3 De-soldering technique
3. Underpinning Skills	3.1 Applying safety rules and using PPE. 3.2 Soldering wire and components 3.3 De-soldering components from copper strip board
4. Required Attitude	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Tidiness and timeliness 4.4 Respect of peers and seniors in workplace
5. Resource Implication.	The following resources must be provided. 5.1 Workplace (actual or simulated) 5.2 Note 5.3 Instruction sheet 5.4 Safety manual 5.5 Mobile Phone 5.6 Soldering and de-soldering tools and equipment;
6. Method assessment.	Competency must be assessed by- 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning/Interview

7. Context assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor.

Accreditation Requirements

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Unit Code and Title	OUMPS003L1V1: Dis-assemble and Re-assemble of Basic Mobile Phone
Nominal Hours	**30 Hours**
Unit Descriptor	This unit covers the knowledge skills and attitudes required to dis-assemble and re-assemble of basic mobile phone. It specifically includes the tasks of dis-assembling and re-assembling of basic mobile phone.
Elements of competency	**Performance Criteria** **Bold &underlined** words are elaborated in the range of variables
1. Prepare for servicing	1.1 **Personal protective equipment** (**PPE**) is used and OSH is followed; 1.2 Tools and equipment are selected in accordance with job requirements; 1.3 Workplace is prepared for servicing activities; 1.4 Materials are selected as per job requirement; 1.5 ESD wristband and ESD Mat are prepared and used
2. Dis-assemble mobile phone.	2.1. **Tools, equipment and materials** are selected and collected. 2.2. Screw, lock position and FPC (Flexible Printed Circuit) Connections (If Applicable) in mobile phone is identified. 2.3. Procedures of dis-assemble front & back cover are followed. 2.4. Location of battery, SIM and memory card are identified and removed as per service manual 2.5. Display, main board and key pad are dis-assembled and kept in sequential order. 2.6. Parts are cleaned and kept in sequential order.
3. Re-assemble the mobile phone	3.1 Display, main board and keypad are re-assembled as per service manual**.** 3.2 Battery, SIM card, Memory cards are re-assembled as per service manual 3.3 Front cover and back cover are re-assembled. 3.4 **Performance and finishing** are checked after re-assembled;
4. Clean tools and equipment.	4.1 Equipment is cleaned and maintained as per instruction manual 4.2 Equipment is stored safely in appropriate location according to standard workshop procedures 4.3 Unsafe or faulty equipment are identified and marked for repair after use according to current procedures

Range of Variables	
Variable	**Range** (May include but not limited to)
1. Personal Protective Equipment (PPE)	1.1 Mask 1.2 Gloves 1.3 Safety shoes 1.4 Apron 1.5 Goggles and safety glasses 1.6 Smoke absorber 1.7 Floor mat 1.8 ESD wrist band
2. Tools	2.1 Precision screw driver set. 2.2 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 2.3 Tweezers 2.4 Blade cutter. 2.5 Point cutter. 2.6 Nose Pliers. 2.7 Brush. 2.8 SIM Ejector
3. Equipment	3.1 Multi-meter (Analog / Digital). 3.2 SMD Rework Station 3.3 Soldering Iron 3.4 Pre heat station 3.5 Quick Charger 3.6 Battery Activation Circuit 3.7 DC power supply. 3.8 Magnifying Glass
4. Materials	4.1 Duster 4.2 ISO-Propyl Alcohol (IPA) 4.3 Soldering paste / Flux paste 4.4 Soldering Lead 4.5 Rubber band 4.6 Clipper 4.7 Adhesive 4.8 Thermal Tape

5. Performance and finishing	5.1 Performance check: 5.1.1.Functional 5.1.2.Network (call in/out) and internet (if applicable) 5.1.3.Audio 5.1.4.Camera 5.1.5.Memory card 5.1.6.Keypad 5.1.7.LCD 5.1.8.Torch. 5.2 Finishing: 5.2.1.Housing 5.2.2.LCD and camera dust 5.2.3.Shortage of screw
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 prepared for assembling work; 1.2 disassembled mobile phone; 1.3 reassembled of mobile phones 1.4 tested performance of reassembled mobile phone;
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Technique of disassembling and reassembling of mobile phone; 2.2 Performance and finishing are checking procedure after reassemble;
3. Underpinning skills	3.1 Preparing for disassemble and reassemble work; 3.2 Disassembling mobile phone; 3.3 Reassembling of mobile phones 3.4 Testing performance of reassembled mobile phone;
4. Required attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Note 5.3 Instruction sheet 5.4 Safety manual 5.5 Mobile Phone 5.6 Mobile disassembling and reassembling tools and equipment;

6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**OUMPS004L1V1: Identify Components of Basic Mobile Phone**
Nominal Hours	**40 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitude required to identify components of basic mobile phone. It specifically includes the tasks of following OSH practice; identifying sections and components of basic mobile phone.
Elements of Competency	**Performance Criteria** **Bold** and **Underlined** terms are elaborated in the range of variables
1. Follow OSH Practice	1.1 **Tools and equipment** are collected and used 1.2 **Personal Protective Equipment (PPE)** is used 1.3 OSH is followed
2. Identify the sections	2.1 The mobile phone is disassembled 2.2 **Sections of mobile phone** is identified 2.3 Sections of mobile phone is listed;
3. Identify the components	3.1 **Components & Parts** of mobile phone are identified; 3.2 Components & Parts of mobile phone are listed; 3.3 Function of components are interpreted 3.4 The mobile phone is assembled
4. Clean tools and equipment	4.1 Tools and equipment are cleaned 4.2 Waste materials are disposed as per workplace standard 4.3 Condition of tools is checked after use 4.4 Tools and equipment are stored as per workplace standard
Range of Variables	
Variable	**Range** (May include but not limited to)
1. Tools	1.1 Hand Tools 1.1.1 Soldering Iron; 1.1.2 PCB Holder/PCB stand; 1.1.3 Blade cutter. 1.1.4 Point cutter. 1.1.5 Nose Pliers. 1.1.6 Precision screw driver set. 1.1.7 Tweezers. 1.1.8 Brush. 1.1.9 Magnifying lamp. 1.1.10 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 1.1.11 Cleaning sponge. 1.1.12 SIM Ejector 1.2 Power Tools 1.2.1 Electric Screwdriver 1.2.2 Mini Grinding Machine
2. Equipment	2.1 PC/Laptop 2.2 Multi-meter (Analog / Digital). 2.3 SMD Rework Station

	2.4 Soldering Iron 2.5 Quick Charger 2.6 Battery Activation Circuit 2.7 DC power supply. 2.8 Magnifying Glass 2.9 Oscilloscope 2.10 Mobile charger. 2.11 Short Killer 2.12 OTG, USB, Power Supply Cables 2.13 SIM card. 2.14 Memory card.
3. Personal Protective Equipment (PPE)	3.1. Mask 3.2. Gloves 3.3. Safety shoes 3.4. Apron 3.5. Goggles and safety glasses 3.6. Smoke absorber 3.7. Floor mat 3.8. ESD wrist band
4. Sections of mobile phone	4.1 Power Section 4.2 Control Section 4.3 Network Section 4.4 Audio Section
5. Mobile phone components & parts	5.1 Fuses 5.2 Inductor 5.3 Non-electrolytic Capacitor 5.4 Electrolytic capacitor 5.5 Resistors 5.6 Coupler 5.7 Sensor 5.8 Diode 5.9 LED 5.10 ICs (Processor, Power, Audio, Network, Charing, Storage) 5.11 Receiver 5.12 Speaker 5.13 Charging Port 5.14 Headphone Port 5.15 Microphone 5.16 Display Module 5.17 Camera Module 5.18 Keypad 5.19 Dome-sheet 5.20 Vibrator 5.21 Battery 5.22 Battery Connectors 5.23 SIM Card 5.24 Memory Card

	5.25 SIM & Memory Base 5.26 SIM & Memory Tray 5.27 Switches 5.28 Transistor 5.29 Antenna 5.30 Housing (Front & Back Shell)
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the unit of competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified sections of mobile phone 1.2 identified components of mobile phone
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Sections of basic mobile phone 2.2 Function of the sections 2.3 Components of basic mobile phone 2.4 Parts of basic mobile phone
3. Underpinning skills	3.1 Assembling and disassembling of basic mobile phone 3.2 Identifying sections of basic mobile phone 3.3 Identifying components of basic mobile phone 3.4 Identifying parts of basic mobile phone
4. Required attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Note 5.3 Instruction sheet 5.4 Safety manual 5.5 Mobile Phone 5.6 Mobile disassembling and reassembling tools and equipment;
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	OUMPS005L1V1: Test Component of Basic Mobile Phone
Nominal Hours	**50 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to test component of basic mobile phone. It specifically includes tasks of identifying and testing basic components of basic mobile phone in the workplace.
Elements of competency	**Performance Criteria** **Bold & Underlined** words are elaborated in the range of variables
1. Prepare for Testing activities	1.1 **Personal protective equipment** (**PPE**) is used 1.2 OSH is followed; 1.3 Work instructions are interpreted to determine job requirements; 1.4 **Tools and equipment** are selected in accordance with job requirements; 1.5 Workplace is prepared for testing activities; 1.6 Testing instruments are calibrated as per work requirement;
2. Identify basic components	2.1. Mobile phone is disassembled as per standard 2.2. **Components** are identified 2.3. Components are Interpreted. 2.4. Symbols of components are identified. 2.5. Terminals of Component are identified.
3. Test components	3.1 Components are selected for Test 3.2 **Testing equipment** are selected 3.3 Test are performed as per standard 3.4 Mobile phone is reassembled as per standard
4. Clean tools and equipment	4.1 Tools and equipment are cleaned 4.2 Waste materials are disposed as per workplace standard 4.3 Condition of tools is checked after use 4.4 Tools and equipment are stored as per workplace standard

Range of Variables	
Variables	**Range** (may include but not limited to):
1. PPE.	1.1 Mask 1.2 Gloves 1.3 Safety shoes 1.4 Apron 1.5 Goggles and safety glasses 1.6 Smoke absorber 1.7 Floor mat 1.8 ESD wrist band
2. Tools	2.1. Hand Tools 2.1.1 Soldering Iron;

	2.1.2 PCB Holder/PCB stand; 2.1.3 Blade cutter. 2.1.4 Point cutter. 2.1.5 Nose Pliers. 2.1.6 Precision screw driver set. 2.1.7 Tweezers. 2.1.8 Brush. 2.1.9 Magnifying lamp. 2.1.10 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 2.1.11 Cleaning sponge. 2.1.12 SIM Ejector 2.2. Power Tools 2.2.1 Electric Screwdriver 2.2.2 Mini Grinding Machine
3. Equipment	3.1 PC/Laptop 3.2 Multi-meter (Analog / Digital). 3.3 SMD Rework Station 3.4 Soldering Iron 3.5 Quick Charger 3.6 Battery Activation Circuit 3.7 DC power supply. 3.8 Magnifying Glass 3.9 Oscilloscope 3.10 Mobile charger. 3.11 Short Killer 3.12 OTG, USB, Power Supply Cables 3.13 SIM card. 3.14 Memory card.
4. Components	4.1 Fuse 4.2 Inductor 4.3 Non-electrolytic Capacitor 4.4 Electrolytic capacitor 4.5 Resistor 4.6 Coupler 4.7 Diode 4.8 LED 4.9 Receiver 4.10 Speaker 4.11 Charging Port 4.12 Headphone Port 4.13 Microphone 4.14 Display Module 4.15 Camera Module 4.16 Keypad 4.17 Vibrator 4.18 Battery

	4.19 Battery Connectors 4.20 SIM & Memory Base 4.21 Switches 4.22 Transistor 4.23 Antenna
5. Testing equipment	5.1 Multi-Meter (Digital / Analog) 5.2 DC Power Supply 5.3 Oscilloscope 5.4 LCR Meter
EVIDENCE GUIDE	
1. Critical aspects at competency.	Assessment must evidence that the candidate: 1.1. prepared for testing activities 1.2. identified basic components of mobile phone 1.3. tested components 1.4. evaluated testing process
2. Underpinning knowledge	2.1 Required tools and equipment for disassembling, reassembling and testing components of mobile phone; 2.2 Testing procedure; 2.3 Operation of testing equipment;
3. Underpinning Skills	3.1 Identifying testing methods; 3.2 Selecting components to be tested; 3.3 Selecting equipment for testing; 3.4 Performing component test; 3.5 Recording testing findings;
4. Required Attitude	4.1 Tidy and punctual 4.2 Prompt in carrying out activities 4.3 Sincere and honest concerning duties 4.4 Active on teamwork 4.5 Eager to learn 4.6 Concerned for proper use of tools 4.7 Committed to occupational health and safety practices 4.8 Respectful of peers, subordinates and seniors in the workplace
5. Resource Implication.	The following resources must be provided: 5.1 Workplace (simulated or actual) 5.2 Personal protective equipment (PPE) 5.3 Tools and testing devices 5.4 Note 5.5 Instruction sheet 5.6 Safety manual 5.7 Mobile Phone 5.8 Mobile disassembling and reassembling tools and equipment;

6. Method assessment.	Competency must be assessed by- 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning
7. Context assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**OUMPS006L1V1: Service Basic Mobile Phone**
Nominal Hours	**95 Hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to service basic mobile phone. It specifically includes the tasks of dis-assembling mobile phone, testing components; replacing faulty components and re-assembling mobile phone in the workplace.
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the range of variables
1. Disassemble mobile phone	1.1 PPE is used 1.2 Tools are collected. 1.3 Mobile phone is switched off. 1.4 Mobile phone is disassembled as per sequence 1.5 Parts and components of the mobile phone are checked 1.6 **Faults** are identified
2. Prepare for repairing and servicing	2.1 Work instructions are interpreted to determine job requirements; 2.2 **Tools and equipment** are selected in accordance with job requirements; 2.3 Workplace is prepared for servicing activities; 2.4 Repairing instruments are calibrated as per work requirement;
3. Test components	3.1 Components are selected for Test 3.2 **Testing equipment** are selected 3.3 Test are performed as per standard 3.4 Faulty components are identified
4. Replace faulty components	4.1 Faulty components are replaced 4.2 Performance of the section is tested
5. Reassemble mobile phone	5.1 Components of the mobile phone are cleaned 5.2 Mobile phone is re-assembled as per sequence 5.3 Function of mobile phone is tested;
6. Clean and store the tools and materials	6.1 Tools and materials are cleaned and stored. 6.2 The workplace is cleaned as per workplace standard
Range of Variables	
Variable	**Range** (May include but not limited to:)

1. Tools	1.1 Precision screw driver set. 1.2 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap) 1.3 Tweezers 1.4 Blade cutter. 1.5 Point cutter. 1.6 Nose Pliers. 1.7 Brush. 1.8 SIM Ejector
2. Equipment	2.1. Multi-meter (Analog / Digital). 2.2. SMD Rework Station 2.3. Soldering Iron 2.4. Pre heat station 2.5. Quick Charger 2.6. Battery Activation Circuit 2.7. DC power supply. 2.8. Magnifying Glass
3. Testing Equipment	3.1 Multi-meter (Digital / Analog) 3.2 DC Power Supply 3.3 LCR Meter 3.4 Oscilloscope
4. Faults	4.1 Power issues 4.2 Audio issues 4.3 Display issues 4.4 Keypad not functioning 4.5 Charging issues 4.6 Network issues 4.7 Memory card not functioning 4.8 SIM card detection issues 4.9 Ear phone not functioning 4.10 Battery issues 4.11 Software issues
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified cover locks; 1.2 disassembled and reassembled of mobile phone; 1.3 identified faulty components; 1.4 replaced faulty components as per standard; 1.5 tested performance of set as per standard;
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 functions of electronic components use in Mobile phone; 2.2 technique of repairing and servicing; 2.3 technique of performance testing;

3. Underpinning skills	3.1 Disassembling and reassembling of mobile phone; 3.2 Identifying electronic components from mobile phone component list; 3.3 Repairing and servicing of basic mobile phone; 3.4 Performance testing procedure of mobile phone;
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere to honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communication with peers and seniors in workplace
5. Resource implication	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Note 5.3 Instruction manual 5.4 Safety manual 5.5 Mobile phone set 5.6 Set of tools 5.7 Testing equipment
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor.

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Unit Code and Title	**OUMPS007L1V1: Apply Software Installation Concept of Basic Mobile Phone**
Nominal Hours	**20 hours**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to apply software installation concept of basic mobile phone It specifically includes the tasks of collecting flash file, flash tool and drivers; and Install drivers & upgrades flash files in the workplace.
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the range of variables
1. Prepare for task to be undertaken	1.1 Safe work practices observed in accordance with occupational health and safety (OHS) requirements 1.2 **Appropriate equipment** is selected according to the requirement. 1.3 Selected **Driver, Flash tools and Flash file** are Collected according to task requirement
2. Collect flash file, flash tool and drivers	2.1 Required **flash file, flash tool & drivers** are selected in accordance with work requirement 2.2 Drivers, flash tools and Flash files are saved as per procedure
3. Install drivers & upgrades flash files	3.1 Adequate mobile phone charge is ensured; 3.2 Mobile phone is switched off before flashing; 3.3 Drivers are installed as per standard; 3.4 Mobile phone is flashed by using flash tools; 3.5 Performance of phone is checked;
RANGE OF VARIABLES	
Variable	**Range** (Included but not limited to):
1. Appropriate Equipment	1.1 Personal computers 1.2 Communication equipment 1.2.1. USB Cable 1.2.2. Software cable
2. Flash tool	2.1 MediaTek 2.2 Spreadtrum
3. Driver	3.1 PL-2303 Driver 3.2 MTK USB Driver 3.3 SPRD NPI USB Driver
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 selected driver, flash tools and flash file are collected according to task requirement 1.2 saved drivers, flash tools and flash files as per standard 1.3 installed drivers as per standard; 1.4 flashed mobile phone by using flash tools
2. Underpinning knowledge	Trainee will acquire knowledge of: 2.1 Driver, Flash tools and Flash file 2.2 Driver installation

	2.3 Flashing technique
3. Underpinning skills	3.1 Selecting and collecting Driver, Flash tools and Flash file Collected according to task requirement 3.2 Saving Drivers, flash tools and Flash files as per standard 3.3 Installing drivers as per standard; 3.4 Flashing mobile phone by using flash tools
4. Required Attitude	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors at workplace
5. Resource implications	The following resources must be provided. 5.1 Workplace (actual or simulated) 5.2 Laptop/PC 5.3 Instruction manual 5.4 Mobile phone set 5.5 Driver, Flash tools and Flash file 5.6 Flash tools
6. Method of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

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Competency Standard Development Committee

The Competency Standards for National Skills Certificate in **Mobile Phone Servicing** is Developed by NSDA on 05-09 December, 2021.

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Standard and Curriculum Validation Committee (SCVC)

The Competency Standards for National Skills Certificate in **Mobile Phone Servicing** is validated by SCVC on 27-28 December, 2021.

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