



**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

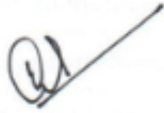
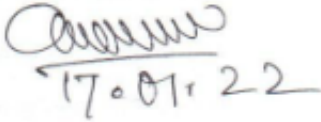
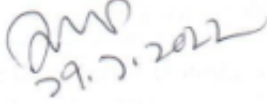

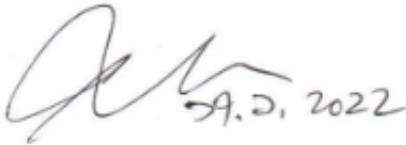
The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- 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
<b>6</b> 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.
<b>5</b> 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.
<b>4</b> 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.
<b>3</b> 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.
<b>2</b> 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
<b>1</b> 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
<b>Dulal Krishna Saha</b> Executive Chairman (Secretary) National Skills Development Authority	
<b>Md. Nurul Amin</b> Member (Registration & Certification) Joint Secretary National Skills Development Authority	 17.01.22
<b>Quamrun Naher Siddiqua</b> Member (Coordination & Assessment) Joint Secretary National Skills Development Authority	 29.1.2022
<b>Dr. Md. Ziauddin</b> Member (Admin & Finance) Joint Secretary National Skills Development Authority	
<b>Alif Rudaba</b> Member (Planning & Skills Standard) Joint Secretary National Skills Development Authority	 29.1.2022

## List of Abbreviations

<b>General</b>	
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
<b>Occupation Specific</b>	
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)
<b>Generic (1 UoCs required)</b>				<b>15</b>
1.	GU002L2V1:	Apply Occupational Safety and Health (OSH) Procedure in the Workplace	1	15
<b>Sector Specific (1 UoCs required)</b>				<b>30</b>
2	SULE001L1V1	Identify tools, equipment and materials for mobile phone servicing	1	30
<b>Occupation Specific – Compulsory (7 UoCs required)</b>				<b>315</b>
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
<b>Total Nominal Learning Hours</b>				<b>360</b>



## 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	<ol style="list-style-type: none"><li>1. Identify OSH policies and procedures.</li><li>2. Follow OSH procedure</li><li>3. Report hazards and risks.</li><li>4. Respond to emergencies</li><li>5. Maintain personal well-being</li></ol>	15
<b>Total Hour</b>			<b>15</b>

### Sector Specific Competencies (20 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
SULE001L1V1	Identify tools, equipment and materials for mobile phone servicing	<ol style="list-style-type: none"><li>1. Follow OSH practices</li><li>2. Use tools properly and safely</li><li>3. Use equipment properly and safely</li><li>4. Use materials properly and safely</li><li>5. Clean and maintain tools and equipment</li></ol>	30
<b>Total Hours</b>			<b>20</b>

## Occupation Specific Competencies (255 Hours)

Code	Unit of Competency	Elements of Competency	Hours
OUMPS001L1V1	Apply fundamentals skills for electrical works	<ol style="list-style-type: none"> <li>1. Prepare for works</li> <li>2. Identify types of tools/equipment</li> <li>3. Identify symbols of electrical fittings</li> <li>4. Identify fittings used in electrical works</li> <li>5. Measure Current</li> <li>6. Measure Voltage</li> <li>7. Maintain workplace, tools, equipment and materials</li> </ol>	20
OUMPS002L1V1	Practice soldering and de soldering	<ol style="list-style-type: none"> <li>1. Solder wire and components</li> <li>2. De solder components from copper strip board</li> <li>3. Clean tools and equipment</li> </ol>	60
OUMPS003L1V1	Dis-assembling and re-assembling of basic mobile phone	<ol style="list-style-type: none"> <li>1. Prepare for servicing and maintenance works</li> <li>2. Disassemble mobile phone.</li> <li>3. Re-assemble the mobile phone</li> <li>4. Clean tools and equipment.</li> </ol>	30
OUMPS004L1V1	Identify components of basic mobile phone	<ol style="list-style-type: none"> <li>1. Follow OSH Practice</li> <li>2. Identify the sections</li> <li>3. Identify the components</li> <li>4. Clean tools and equipment</li> </ol>	40
OUMPS005L1V1	Test component of basic mobile phone	<ol style="list-style-type: none"> <li>1. Identify basic electronic components</li> <li>2. Determine testing criteria</li> <li>3. Plan testing approach</li> <li>4. Test components</li> </ol>	50
OUMPS006L1V1	Service basic mobile phone	<ol style="list-style-type: none"> <li>1. Disassemble mobile phone</li> <li>2. Prepare for servicing and maintenance works</li> <li>3. Test components</li> <li>4. Replace faulty components</li> <li>5. Re-assemble mobile phone</li> <li>6. Clean and store the tools and materials and clean the workplace</li> </ol>	95
OUMPS007L1V1	Apply software installation concept of basic mobile phone	<ol style="list-style-type: none"> <li>1. Prepare for task to be undertaken</li> <li>2. Collected flash file, flash tool and drivers</li> <li>3. Install drivers &amp; upgrades flash files</li> </ol>	20
<b>Total Hours</b>			<b>315</b>

# **Generic Competencies**

<b>Unit Code and Title</b>	<b>GU002L2V1: Apply Occupational Safety and Health (OSH) Procedure in the Workplace</b>
<b>Unit Descriptor</b>	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.
<b>Nominal Hours</b>	<b>15 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Identify OSH policies and procedures.	1.1. <b><u>OHS policies</u></b> and <b><u>safe operating procedures</u></b> are accessed and stated. 1.2. <b><u>Safety signs and symbols</u></b> 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 <b><u>Personal protective equipment (PPE)</u></b> 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 <b><u>Hazards</u></b> 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 <b><u>emergency procedures</u></b> are followed. 4.3 <b><u>Contingency measures</u></b> during workplace accidents, fire and other emergencies are recognized and followed in accordance with organization procedures. 4.4 First 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 <b><u>“Fit to work” records</u></b> are updated and maintained according to workplace requirements.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (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
<b>Evidence Guide</b>	
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	<ul style="list-style-type: none"> <li>2.1 Define OHS</li> <li>2.2 OHS Workplace Policies and Procedures</li> <li>2.3 Work Safety Procedures</li> <li>2.4 Emergency Procedures</li> <li>2.5 Hazard control procedure</li> <li>2.6 Different types of Hazards</li> <li>2.7 PPE and there uses</li> <li>2.8 Personal Hygiene Practices</li> <li>2.9 OHS Awareness</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Accessing OHS policies</li> <li>3.2 Handling of PPE</li> <li>3.3 Handling cleaning tools and equipment</li> <li>3.4 Writing report</li> <li>3.5 Responding to emergency procedures</li> </ul>
4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Sincere and honest to duties</li> <li>4.3 Promptness in carrying out activities</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> <li>4.6 Tidiness and timeliness</li> <li>4.7 Respect of peers and seniors in workplace</li> <li>4.8 Communicate with peers and seniors in workplace</li> </ul>
5. Resource implications	<ul style="list-style-type: none"> <li>5.1 Adequate workplace</li> <li>5.2 Equipment and outfits appropriate in applying safety measures</li> <li>5.3 Tools, materials and documentation required</li> <li>5.4 OHS Policies and Procedures</li> </ul>
6. Methods of assessment	<ul style="list-style-type: none"> <li>6.1 Written test</li> <li>6.2 Demonstration</li> <li>6.3 Oral Questioning</li> <li>6.4 Portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in NSDA accredited assessment centre</li> <li>7.2 Assessment should be done by a NSDA certified/nominated assessor.</li> </ul>

### **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**

<b>Unit Code and Title</b>	<b>SULE001L1V1: Identify Tools, Equipment and Materials for Mobile Phone Servicing</b>
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold and Underlined</u></b> 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 <b><u>Personal Protective Equipment</u></b> (PPE) is used. 1.3 <b><u>Hazards</u></b> at workplace is identified and eliminated;
2. Use tools properly and safely	2.1 Appropriate <b><u>tools</u></b> 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 <b><u>Equipment</u></b> 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 <b><u>Equipment</u></b> is use properly and safely to perform work activity.
4. Use materials properly and safely	4.1 <b><u>Materials</u></b> 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.



<b>Range of Variables</b>	
<b>Variables</b>	<b>Range (may include but not limited to):</b>
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	<ul style="list-style-type: none"> <li>4.1 PC/Laptop</li> <li>4.2 Multi-meter (Analog / Digital).</li> <li>4.3 SMD Rework Station</li> <li>4.4 Soldering Iron</li> <li>4.5 Quick Charger</li> <li>4.6 Battery Activation Circuit</li> <li>4.7 DC power supply.</li> <li>4.8 Magnifying Glass</li> <li>4.9 Oscilloscope</li> <li>4.10 Mobile charger.</li> <li>4.11 Short Killer</li> <li>4.12 OTG, USB, Power Supply Cables</li> <li>4.13 SIM card.</li> <li>4.14 Memory card.</li> </ul>
5.Materials	<ul style="list-style-type: none"> <li>5.1 Duster, flux remover.</li> <li>5.2 Iso Propyl Alcohol (IPA).</li> <li>5.3 Contact cleaner.</li> <li>5.4 Solder wire</li> <li>5.5 Thinner.</li> <li>5.6 Jumper wire.</li> <li>5.7 Flux paste.</li> <li>5.8 De-Soldering wire.</li> <li>5.9 Heat Resistance Tape</li> <li>5.10 Soldering Iron Bit/ Cartridge</li> <li>5.11 Adhesive</li> </ul>
<p><b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1.Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 identified and selected appropriate tools, equipment and materials for work to be performed</li> <li>1.2 identified and used tools, equipment and materials appropriate to work activity</li> <li>1.3 followed safety precautions when using tools, equipment and materials</li> <li>1.4 operated tools, equipment and materials safely and pursuant to manufacturer's operating specification</li> <li>1.5 performed cleaning and maintenance of tools, equipment and materials after use and prior to storing</li> </ul>
2.Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Information on types of tools used for mobile phone servicing, their functions and use;</li> <li>2.2 Information on types of equipment used for mobile phone servicing, their functions and use;</li> <li>2.3 Information on types of materials used for mobile phone servicing;</li> <li>2.4 Procedures for safely using hand and power tools</li> </ul>

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**

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.

## **Occupation Specific Competencies**

<b>Unit Code and Title</b>	<b>OUMPS001L1V1: Apply Fundamentals Skills for Electrical Works</b>
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold and Underlined</u></b> terms are elaborated in the range of variables.
1. Prepare for works	1.1. <b><u>PPE</u></b> is collected and worn as per job requirement 1.2. Workplace is prepared as per job requirement 1.3. <b><u>Tools</u></b> 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 <b><u>symbols</u></b> 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 <b><u>Fittings</u></b> 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	<b>Using ampere meter</b> 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 <b>Using clip-on meter</b> 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	<b>Using Volt meter</b> 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 <b>Using AVO/Multi meter</b> 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
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (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	<b>Hand tools:</b> 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 <b>Power tools:</b> 2.28 Drill Machine (Manual and Electrical) 2.29 Grinding Machine <b>Accessories:</b> 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

	<ul style="list-style-type: none"> <li>4.7 Junction Box</li> <li>4.8 Channel</li> <li>4.9 PVC Conduit</li> <li>4.10 PVC Elbow</li> <li>4.11 PVC Bend</li> <li>4.12 PVC Socket</li> <li>4.13 Circular Box</li> <li>4.14 Saddle</li> <li>4.15 Indicator</li> </ul>
<p><b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>Assessment required evidences that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 followed Occupational Safety and Health Procedure in the workplace</li> <li>1.2 identified and collected tools, equipment, symbols and fittings</li> <li>1.3 used tools, equipment and Fittings as per standard</li> <li>1.4 connected ampere meter with load and measured current</li> <li>1.5 inserted phase cable into the ring of the clip-on meter and measure current</li> <li>1.6 connected volt meter with the load and measured voltage</li> <li>1.7 connected AVO meter to supply line and measured voltage</li> <li>7.6 cleaned tools, equipment and materials</li> <li>1.8 disposed waste materials in designated place</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Specification of tools, equipment and fittings.</li> <li>2.2 Identification and use of symbols.</li> <li>2.3 Series circuit</li> <li>2.4 Parallel circuit</li> <li>2.5 Measurement of current</li> <li>2.6 Measurement voltage</li> <li>2.7 Definition of Preventive Maintenance, Methods and Techniques, Quality Procedures</li> <li>2.8 Storing Procedures</li> <li>2.9 Function and properties of fittings</li> <li>2.10 Functions and safety precaution of tools</li> </ul>
3. Underpinning Skills	<ul style="list-style-type: none"> <li>3.1 Using PPE</li> <li>3.2 Using Tools, Equipment and Materials</li> <li>3.3 Selecting appropriate Tools, Equipment and fittings</li> <li>3.4 Checking specifications</li> <li>3.5 Locating and marking points</li> <li>3.6 Handling of measuring instruments</li> </ul>
4. Underpinning attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational safety and health</li> <li>4.2 Environmental concerns</li> <li>4.3 Eagerness to learn</li> <li>4.4 Tidiness and timeliness</li> <li>4.5 Respect for rights of peers and seniors in workplace</li> </ul>

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



<b>Unit Code and Title</b>	<b>OUMPS002L1V1: Practice Soldering and De soldering</b>
<b>Nominal Hours</b>	<b>60 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> words are elaborated in the range of variables
1. Prepare for Soldering	1.1 <b><u>Personal protective equipment (PPE)</u></b> 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 <b><u>Components</u></b> 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
<b>EVIDENCE GUIDE</b>	
1. Critical aspects at competency.	Assessment required evidence that the candidate: <ul style="list-style-type: none"> <li>1.1 applied safety rules and used PPE.</li> <li>1.2 soldered wire and components</li> <li>1.3 de-solder components from copper strip board</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 OSH and safety rules</li> <li>2.2 Soldering technique</li> <li>2.3 De-soldering technique</li> </ul>
3. Underpinning Skills	<ul style="list-style-type: none"> <li>3.1 Applying safety rules and using PPE.</li> <li>3.2 Soldering wire and components</li> <li>3.3 De-soldering components from copper strip board</li> </ul>
4. Required Attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Environmental concerns</li> <li>4.3 Tidiness and timeliness</li> <li>4.4 Respect of peers and seniors in workplace</li> </ul>
5. Resource Implication.	The following resources must be provided. <ul style="list-style-type: none"> <li>5.1 Workplace (actual or simulated)</li> <li>5.2 Note</li> <li>5.3 Instruction sheet</li> <li>5.4 Safety manual</li> <li>5.5 Mobile Phone</li> <li>5.6 Soldering and de-soldering tools and equipment;</li> </ul>
6. Method assessment.	Competency must be assessed by- <ul style="list-style-type: none"> <li>6.1 Written test</li> <li>6.2 Demonstration</li> <li>6.3 Oral Questioning/Interview</li> </ul>

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

<b>Unit Code and Title</b>	<b>OUMPS003L1V1: Dis-assemble and Re-assemble of Basic Mobile Phone</b>
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; underlined</u></b> words are elaborated in the range of variables
1. Prepare for servicing	1.1 <b><u>Personal protective equipment (PPE)</u></b> 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 <b><u>Materials</u></b> are selected as per job requirement; 1.5 ESD wristband and ESD Mat are prepared and used
2. Dis-assemble mobile phone.	2.1. <b><u>Tools, equipment and materials</u></b> 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 <b><u>Performance and finishing</u></b> 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

<b>Range of Variables</b>	
<b>Variable</b>	<b>Range (May include but not limited to)</b>
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: <ul style="list-style-type: none"> <li>5.1.1.Functional</li> <li>5.1.2.Network (call in/out) and internet (if applicable)</li> <li>5.1.3.Audio</li> <li>5.1.4.Camera</li> <li>5.1.5.Memory card</li> <li>5.1.6.Keypad</li> <li>5.1.7.LCD</li> <li>5.1.8.Torch.</li> </ul> 5.2 Finishing: <ul style="list-style-type: none"> <li>5.2.1.Housing</li> <li>5.2.2.LCD and camera dust</li> <li>5.2.3.Shortage of screw</li> </ul>
<b>Evidence Guide</b> 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: <ul style="list-style-type: none"> <li>1.1 prepared for assembling work;</li> <li>1.2 disassembled mobile phone;</li> <li>1.3 reassembled of mobile phones</li> <li>1.4 tested performance of reassembled mobile phone;</li> </ul>
2. Underpinning knowledge	Trainee will acquire knowledge of: <ul style="list-style-type: none"> <li>2.1 Technique of disassembling and reassembling of mobile phone;</li> <li>2.2 Performance and finishing are checking procedure after reassemble;</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Preparing for disassemble and reassemble work;</li> <li>3.2 Disassembling mobile phone;</li> <li>3.3 Reassembling of mobile phones</li> <li>3.4 Testing performance of reassembled mobile phone;</li> </ul>
4. Required attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere to honest to duties</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> <li>4.6 Tidiness and timeliness</li> <li>4.7 Respect for rights of peers and seniors in workplace</li> <li>4.8 Communication with peers and seniors in workplace</li> </ul>
5. Resource implication	The following resources must be provided: <ul style="list-style-type: none"> <li>5.1 Workplace (actual or simulated)</li> <li>5.2 Note</li> <li>5.3 Instruction sheet</li> <li>5.4 Safety manual</li> <li>5.5 Mobile Phone</li> <li>5.6 Mobile disassembling and reassembling tools and equipment;</li> </ul>

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

<b>Unit Code and Title</b>	<b>OUMPS004L1V1: Identify Components of Basic Mobile Phone</b>
<b>Nominal Hours</b>	<b>40 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold and Underlined</u></b> terms are elaborated in the range of variables
1. Follow OSH Practice	1.1 <b><u>Tools and equipment</u></b> are collected and used 1.2 <b><u>Personal Protective Equipment (PPE)</u></b> is used 1.3 OSH is followed
2. Identify the sections	2.1 The mobile phone is disassembled 2.2 <b><u>Sections of mobile phone</u></b> is identified 2.3 Sections of mobile phone is listed;
3. Identify the components	3.1 <b><u>Components &amp; Parts</u></b> 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
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (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



	<ul style="list-style-type: none"> <li>2.4 Soldering Iron</li> <li>2.5 Quick Charger</li> <li>2.6 Battery Activation Circuit</li> <li>2.7 DC power supply.</li> <li>2.8 Magnifying Glass</li> <li>2.9 Oscilloscope</li> <li>2.10 Mobile charger.</li> <li>2.11 Short Killer</li> <li>2.12 OTG, USB, Power Supply Cables</li> <li>2.13 SIM card.</li> <li>2.14 Memory card.</li> </ul>
3. Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> <li>3.1. Mask</li> <li>3.2. Gloves</li> <li>3.3. Safety shoes</li> <li>3.4. Apron</li> <li>3.5. Goggles and safety glasses</li> <li>3.6. Smoke absorber</li> <li>3.7. Floor mat</li> <li>3.8. ESD wrist band</li> </ul>
4. Sections of mobile phone	<ul style="list-style-type: none"> <li>4.1 Power Section</li> <li>4.2 Control Section</li> <li>4.3 Network Section</li> <li>4.4 Audio Section</li> </ul>
5. Mobile phone components & parts	<ul style="list-style-type: none"> <li>5.1 Fuses</li> <li>5.2 Inductor</li> <li>5.3 Non-electrolytic Capacitor</li> <li>5.4 Electrolytic capacitor</li> <li>5.5 Resistors</li> <li>5.6 Coupler</li> <li>5.7 Sensor</li> <li>5.8 Diode</li> <li>5.9 LED</li> <li>5.10 ICs (Processor, Power, Audio, Network, Charging, Storage)</li> <li>5.11 Receiver</li> <li>5.12 Speaker</li> <li>5.13 Charging Port</li> <li>5.14 Headphone Port</li> <li>5.15 Microphone</li> <li>5.16 Display Module</li> <li>5.17 Camera Module</li> <li>5.18 Keypad</li> <li>5.19 Dome-sheet</li> <li>5.20 Vibrator</li> <li>5.21 Battery</li> <li>5.22 Battery Connectors</li> <li>5.23 SIM Card</li> <li>5.24 Memory Card</li> </ul>

	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)
<b>Evidence Guide</b> 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**

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.

<b>Unit Code and Title</b>	<b>OUMPS005L1V1: Test Component of Basic Mobile Phone</b>
<b>Nominal Hours</b>	<b>50 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of competency</b>	<b>Performance Criteria</b>
	<b><u>Bold &amp; Underlined</u></b> words are elaborated in the range of variables
1. Prepare for Testing activities	1.1 <b><u>Personal protective equipment (PPE)</u></b> is used 1.2 OSH is followed; 1.3 Work instructions are interpreted to determine job requirements; 1.4 <b><u>Tools and equipment</u></b> 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. <b><u>Components</u></b> 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 <b><u>Testing equipment</u></b> 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

<b>Range of Variables</b>	
<b>Variables</b>	<b>Range (may include but not limited to):</b>
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;

	<ul style="list-style-type: none"> <li>2.1.2 PCB Holder/PCB stand;</li> <li>2.1.3 Blade cutter.</li> <li>2.1.4 Point cutter.</li> <li>2.1.5 Nose Pliers.</li> <li>2.1.6 Precision screw driver set.</li> <li>2.1.7 Tweezers.</li> <li>2.1.8 Brush.</li> <li>2.1.9 Magnifying lamp.</li> <li>2.1.10 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap)</li> <li>2.1.11 Cleaning sponge.</li> <li>2.1.12 SIM Ejector</li> <li>2.2. Power_Tools <ul style="list-style-type: none"> <li>2.2.1 Electric Screwdriver</li> <li>2.2.2 Mini Grinding Machine</li> </ul> </li> </ul>
3. Equipment	<ul style="list-style-type: none"> <li>3.1 PC/Laptop</li> <li>3.2 Multi-meter (Analog / Digital).</li> <li>3.3 SMD Rework Station</li> <li>3.4 Soldering Iron</li> <li>3.5 Quick Charger</li> <li>3.6 Battery Activation Circuit</li> <li>3.7 DC power supply.</li> <li>3.8 Magnifying Glass</li> <li>3.9 Oscilloscope</li> <li>3.10 Mobile charger.</li> <li>3.11 Short Killer</li> <li>3.12 OTG, USB, Power Supply Cables</li> <li>3.13 SIM card.</li> <li>3.14 Memory card.</li> </ul>
4. Components	<ul style="list-style-type: none"> <li>4.1 Fuse</li> <li>4.2 Inductor</li> <li>4.3 Non-electrolytic Capacitor</li> <li>4.4 Electrolytic capacitor</li> <li>4.5 Resistor</li> <li>4.6 Coupler</li> <li>4.7 Diode</li> <li>4.8 LED</li> <li>4.9 Receiver</li> <li>4.10 Speaker</li> <li>4.11 Charging Port</li> <li>4.12 Headphone Port</li> <li>4.13 Microphone</li> <li>4.14 Display Module</li> <li>4.15 Camera Module</li> <li>4.16 Keypad</li> <li>4.17 Vibrator</li> <li>4.18 Battery</li> </ul>

	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
<b>EVIDENCE GUIDE</b>	
1. Critical aspects at competency.	Assessment must evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. prepared for testing activities</li> <li>1.2. identified basic components of mobile phone</li> <li>1.3. tested components</li> <li>1.4. evaluated testing process</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1 Required tools and equipment for disassembling, reassembling and testing components of mobile phone;</li> <li>2.2 Testing procedure;</li> <li>2.3 Operation of testing equipment;</li> </ol>
3. Underpinning Skills	<ol style="list-style-type: none"> <li>3.1 Identifying testing methods;</li> <li>3.2 Selecting components to be tested;</li> <li>3.3 Selecting equipment for testing;</li> <li>3.4 Performing component test;</li> <li>3.5 Recording testing findings;</li> </ol>
4. Required Attitude	<ol style="list-style-type: none"> <li>4.1 Tidy and punctual</li> <li>4.2 Prompt in carrying out activities</li> <li>4.3 Sincere and honest concerning duties</li> <li>4.4 Active on teamwork</li> <li>4.5 Eager to learn</li> <li>4.6 Concerned for proper use of tools</li> <li>4.7 Committed to occupational health and safety practices</li> <li>4.8 Respectful of peers, subordinates and seniors in the workplace</li> </ol>
5. Resource Implication.	The following resources must be provided: <ol style="list-style-type: none"> <li>5.1 Workplace (simulated or actual)</li> <li>5.2 Personal protective equipment (PPE)</li> <li>5.3 Tools and testing devices</li> <li>5.4 Note</li> <li>5.5 Instruction sheet</li> <li>5.6 Safety manual</li> <li>5.7 Mobile Phone</li> <li>5.8 Mobile disassembling and reassembling tools and equipment;</li> </ol>

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.

<b>Unit Code and Title</b>	<b>OUMPS006L1V1: Service Basic Mobile Phone</b>
<b>Nominal Hours</b>	<b>95 Hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> 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 <b><u>Faults</u></b> are identified
2. Prepare for repairing and servicing	2.1 Work instructions are interpreted to determine job requirements; 2.2 <b><u>Tools and equipment</u></b> 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 <b><u>Testing equipment</u></b> 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
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (May include but not limited to:)



1. Tools	<ul style="list-style-type: none"> <li>1.1 Precision screw driver set.</li> <li>1.2 Mobile opener (Metal, Plastic, Flexible plastic Card, Suction Cap)</li> <li>1.3 Tweezers</li> <li>1.4 Blade cutter.</li> <li>1.5 Point cutter.</li> <li>1.6 Nose Pliers.</li> <li>1.7 Brush.</li> <li>1.8 SIM Ejector</li> </ul>
2. Equipment	<ul style="list-style-type: none"> <li>2.1. Multi-meter (Analog / Digital).</li> <li>2.2. SMD Rework Station</li> <li>2.3. Soldering Iron</li> <li>2.4. Pre heat station</li> <li>2.5. Quick Charger</li> <li>2.6. Battery Activation Circuit</li> <li>2.7. DC power supply.</li> <li>2.8. Magnifying Glass</li> </ul>
3. Testing Equipment	<ul style="list-style-type: none"> <li>3.1 Multi-meter (Digital / Analog)</li> <li>3.2 DC Power Supply</li> <li>3.3 LCR Meter</li> <li>3.4 Oscilloscope</li> </ul>
4. Faults	<ul style="list-style-type: none"> <li>4.1 Power issues</li> <li>4.2 Audio issues</li> <li>4.3 Display issues</li> <li>4.4 Keypad not functioning</li> <li>4.5 Charging issues</li> <li>4.6 Network issues</li> <li>4.7 Memory card not functioning</li> <li>4.8 SIM card detection issues</li> <li>4.9 Ear phone not functioning</li> <li>4.10 Battery issues</li> <li>4.11 Software issues</li> </ul>
<p><b>Evidence Guide</b></p> <p>The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency</p>	
1. Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 identified cover locks;</li> <li>1.2 disassembled and reassembled of mobile phone;</li> <li>1.3 identified faulty components;</li> <li>1.4 replaced faulty components as per standard;</li> <li>1.5 tested performance of set as per standard;</li> </ul>
2. Underpinning knowledge	<p>Trainee will acquire knowledge of:</p> <ul style="list-style-type: none"> <li>2.1 functions of electronic components use in Mobile phone;</li> <li>2.2 technique of repairing and servicing;</li> <li>2.3 technique of performance testing;</li> </ul>

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.

**Accreditation Requirements**

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<b>Unit Code and Title</b>	<b>OUMPS007L1V1: Apply Software Installation Concept of Basic Mobile Phone</b>
<b>Nominal Hours</b>	<b>20 hours</b>
<b>Unit Descriptor</b>	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.
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> 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 <b><u>Appropriate equipment</u></b> is selected according to the requirement. 1.3 Selected <b><u>Driver, Flash tools and Flash file</u></b> are Collected according to task requirement
2. Collect flash file, flash tool and drivers	2.1 Required <b><u>flash file, flash tool &amp; drivers</u></b> 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;
<b>RANGE OF VARIABLES</b>	
<b>Variable</b>	<b>Range</b> (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
<b>Evidence Guide</b>	
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
<p><b>Accreditation Requirements</b></p> <p>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.</p>	

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

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