Competency Based Curriculum (CBC)

Laptop Servicing and Maintenance

Level-3

Information and Communication Technology Sector

Curriculum Code:CBC-ICT-LSM-L3-EN-V1

National Skills Development Authority
Chief Advisor's Office
Government of the People's Republic of Bangladesh

Copyright

National Skills Development Authority
Chief Advisor's Office
Level: 10-11, Biniyog Bhaban,
E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh.
Email: ec@nsda.gov.bd
Website: www.nsda.gov.bd.
National Skills Portal: http:\\skillsportal.gov.bd

The curriculum is designed based on NSDA approved Competency Standards of **Laptop Servicing and Maintanance, Level-3, Occupation.** It covers the information required to implement the **Laptop Servicing and Maintanance, Level-3** standard. It is an important supporting document for trainers, assessors and curriculum developers.

This document has been developed by NSDA with the support of ISC representatives'/industry representatives from relevant sectors, academia, curriculum specialists, expert trainers and professionals.

All Government-Private-NGO training institutes of the country recognized by NSDA can use this curriculum to implement skill-based training of **Laptop Servicing and Maintanance, Level-3** course.

Introduction

The importance of skill-based training in socio-economic development of the country is immense. Demand oriented training is an important area for increasing productivity, creating employment and alleviating poverty. Skill development training institutes established at public and private level in Bangladesh are providing skill development training commercially. It is important to have uniform training curriculum based on occupation to improve and harmonize the overall quality of training conducted in all these training institutions. NSDA as provided in the National Skill Development Authority Act, 2018 is formulating uniform curriculum for training programs conducted across the country in various occupations/trades.

Competency standards for various occupations (level based) are being formulated by NSDA with the aim of creating skilled manpower as per the demand of domestic and international labor market.

Skilled and trained trainers are essential for providing training and assessment according to competency standards. For this purpose, the curriculum of **Laptop Servicing and Maintanance, Level-3** has been formulated through an expert committee consisting of ISC/Industry representatives from respective sectors, academia, curriculum specialists, expert trainers and professionals. This curriculum includes essential course design, course structure, course delivery methods, equipment and facilities inventory, and physical facilities. Apart from this, the assessment criteria of trainees, assessment procedure, qualification level and certification process have been inserted.

This curriculum is an NSDA-approved document that describes the overall contents of the training implementation of **Laptop Servicing and Maintanance, Level-3** as per industry demand-based competency standards. The trainees of **Laptop Servicing and Maintanance, Level-3** course can develop themselves as skilled and qualified **Laptop servicing Technician** by following properly.

Competency Based Learning Materials (CBLM) and Assessment tools are developed following this document. Assessment and certification of trainees will also follow this curriculum.

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
GU	Generic Unit
SU	Sector Unit
OU	Occupation Unit
Occupation Specific	
GUI	Graphical User Interface
ESD	Electro-static Discharge
ICT	Information Communication Technology (ICT)
KPI	Key Performance Indicator
LCD	Liquid Crystal Display
OSH	Occupational safety and health
PPE	Personal protective equipment
RAM	Random Access Memory
USB	Universal serial bus
LSM	Laptop Servicing and Maintenance
OS	Operating System
VDU	Visual Display Unit
CD	Compact Disc
DVD	Digital Video Disc" or "Digital Versatile Disc."
ASCII	American Standard Code for Information Interchange
CV	Curriculum Vitae
CPU	Central Processing Unit

Table of Contents

Course Design

Name of Course : Laptop Servicing and Maintanance

Skill Level **:** National Skills Certificate(NSC)- Level - 3

Nominal Hours **:** 360 Hours

List of Unit of Competency

Generic Unit of Competency

1 Work in a Team Environment
2 Develop Entrepreneurship Skills

Sector Specific Unit of Competency

1 Practice Occupational Safety and Health (OSH) Standard in ICT Workplace
2 Comply to Ethical Standards in the ICT Workplace
3 Use Internet and Access Resources
4 Maintain Inventory and Participate in Professional Development Activities
5 Communicate with Customer and Provide Customer Service

Occupation Specific Unit of Competency

1 Conduct Diagnostics and Assess Laptop Performance
2 Troubleshoot and Repair Software Issues
3 Perform Hardware Repair and Maintenance

Description of the **Course**

It is a skill-based training course designed to develop the knowledge, skills and workplace attitude required for the **Laptop Servicing and Maintanance under ~~in~~ Information and Communication Technology Sector.** The curriculum covers various modules such as, Working in a Team Environment, Developing Entrepreneurship Skills, Practicing Occupational Safety and Health (OSH) Standard in ICT, Complying to Ethical Standards in the ICT Workplace, Using Internet and Access Resources, Maintaining Inventory and Participate in Professional Development Activities, Communicating with Customer and Providing Customer Service, Conducting Diagnosting and Assess Laptop Performance, Troubleshoot and Repair Software Issues, Performing Hardware Repairingb and Maintenance.

Learning Outcome of the Course

Upon successful completion of this occupational course, the candidate will be eligible to obtain the National Skills Certificate (NSC) in Laptop Servicing and Maintenance at Level 3, under the Bangladesh National Qualification Framework (BNQF). The course also aims to achieve the following specific functional, economic, and social learning outcomes.

Work-Oriented Learning Outcomes

- Develop hands-on expertise in identifying, diagnosing, and repairing laptop hardware and software issues, including the use of tools, testing equipment, and diagnostic software.

- Gain proficiency in assembling and disassembling laptops following safety standards, and apply standard procedures for troubleshooting, updating firmware/BIOS, and installing drivers.

- Build the capacity to work in ICT service environments or independently, with skills in documentation, customer interaction, and professional service etiquette.

Financial Outcome-Based Learning

- Acquire in-demand laptop repair skills to increase job prospects, freelance opportunities, and earning potential in both local and international markets.

- Build the capacity to start a home-based or small-scale laptop servicing business with minimal investment, and reduce dependence on external repair services.

- Strengthen the foundation for upskilling into advanced ICT maintenance areas such as desktop, mobile, and network servicing.

Social Outcome-Based Learning

- Promote e-waste reduction and environmental sustainability through repair and reuse of laptops.

- Support digital access and literacy by maintaining functional devices for education and work, especially in rural and underserved communities.

- Empower youth and marginalized groups with self-employment skills, while encouraging responsible device handling and cybersecurity awareness.

COURSE STRUCTURE

Generic Unit of Competency

Sl. No.	Unit of Competency	Module Title	Learning Outcome	Nominal Hours
1	Work in a Team Environment	Working in a Team Environment	1. Define team role and scope 2. Identify individual role and responsibility 3. Participate in team discussions 4. Work as a team member	20
2	Develop Entrepreneurship Skills	Developing Entrepreneurship Skills	1. Recognize concept of Entrepreurship 2. Explain functions of Entrepreneur 3. Explain role of Entrepreneur in Economic Development 4. Plan for Business and marketing 5. Explain small business 6. Interpret reasons of failure and success in small business	15

Sector Specific Unit of Competency

Sl. No.	Unit of Competency	Module Title	Learning Outcome	Nominal Hours
1	Practice Occupational Safety and Health (OSH) Standard in ICT	Practicing Occupational Safety and Health (OSH) Standard in ICT	1. Identify hazard and risk in the ICT Environment 2. Apply Personal Health and Safety Practices 3. Manage and Report Hazards 4. Respond to Emergencies	15
2	Comply with Ethical Standards in the ICT Workplace	Complying with Ethical Standards in the ICT Workplace	1. Uphold the requirements of clients 2. Deliver quality products and services 3. Maintain professionalism at workplace 4. Maintain workplace code of conduct.	15
3	Use Internet and Access Resources	Using Internet and Access Resources	1. Prepare resources for sharing 2. Access Resources using the Intnternet	30
4	Maintaining Inventory and Participate in Professional Development Activities	Maintaining Inventory and Participate in Professional Development Activities	1. Maintain Inventory 2. Identify and Participate in Professional Development Activities	20
5	Communicating with Customer and Provide Customer Service	Communicating with Customer and Provide Customer Service	1. Communicate with Customers 2. Provide Maintenance guidelines 3. Gather and Utilize Customer Feedback	30

Occupation Specific Unit of Competency

Sl. No.	Unit of Competency	Module Title	Learning Outcome	Nominal Hours
1.	Conduct Diagnostics and Assess Laptop Performance	Conducting Diagnostics and Assess Laptop Performance	1. Interpret electronic and electrical components 2. Perform Visual Inspections 3. Run Diagnostic Tests 4. Gather and Analyze Information	60
2.	Troubleshoot and Repair Software Issues	Troubleshooting and Repairing Software Issues	1. Install and Configure Operating Systems 2. Diagnose Software Issues 3. Remove Malware and Viruses 4. Troubleshoot Network Issues	75
3.	Perform Hardware Repair and Maintenance	Performing Hardware Repair and Maintenance	1. Disassemble and Reassemble Laptops 2. Replace Faulty Components 3. Perform Hardware Upgrades 4. Maintain Laptop externals and internals cleanliness	80

Summary of the Units of Competency and Numbers of Modules

Generic Unit of Competency	**Number of Module**
1. Work in a Team Environment	01
2. Develop Entrepreneurship Skills	01
Sector SpecificUnit of Competency	
3. Practice Occupational Safety and Health (OSH) Standard in ICT	01
4. Complying with Ethical Standards in the ICT Workplace	01
5. Use Internet and Access Resources	01
6. Maintaining Inventory and Participate in Professional Development Activities	01
7. Communicating with Customer and Provide Customer Service	01
Occupation SpecificUnit of Competency	
8. Conduct Diagnostics and Assess Laptop Performance	01
9. Troubleshoot and Repair Software Issues	01
10. Perform Hardware Repair and Maintenance	01
Total	**12**

Mode of training Delivery

1. Face to Face
2. Self Paced Learning
3. On the job
4. Off the job

Course Delivery (Training) Method

A variety of methods can be applied to deliver the course depending on the students' learning interests and abilities. Instructors should select appropriate methods to train students. Some of the common methods used during the delivery of the course are:

1. Lecture
2. Presentation
3. Discussion
4. Demonstration
5. Guided Practice
6. Individual Pactice
7. Project Work
8. Problem Solving
9. Brainstorming

Type of Modules

- Generic
- Sector Specific and
- Occupation Specific

Detail Contents of Generic Modules

Unit of Competency	**Work in a Team Environment**
Unit Code	**GU-04-L1-V1**
Module Title	Working in a Team Environment
Module Descriptor	This module covers the knowledge, skills and attitudes required to working in a team environment. It includes defining team role and scope, identifying individual role and responsibility, participating in team discussions and working as a team member.
Nominal Hours	**20 Hours**
Lerning Outcome	After completing the practice of the module, the trainees will be able to perform the following jobs: 1. Define team role and scope 2. Identify individual role and responsibility 3. Participate in team discussions 4. Work as a team member
Learning Outcome -1: Define team role and scope	
Assessment Criteria	1. Role and objectives of the team are defined 2. Team structure, responsibilities and reporting relations are identified from team discussions and other external sources
Conditions and Resources	• Workplace or Simulated Workplace • CBLM • Handout • Laptop • Multimedia Projector • Paper, Pen, Pencil and Ereser • Internet Facilities • White Board and marker • Audio video device • Necessary tools • Necessary PPE
Contents	1. Team structure, roles and responsibilities 2. Roles and responsibilities of individual members 3. Communication flow and reporting structure 4. Team planning 5. Interpersonal communication skills

Training Method	• Discussion • Presentation • Demonstration • Guided Practice • Individual Practice • Project Work • Problem Solving • Brainstorming
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning
Learning Outcome -2: Identify individual role and responsibility	
Assessment Criteria	1. Individual roles and responsibilities of team members are identified 2. Reporting relationships among team members are defined and clarified 3. Reporting relationships external to the team are defined and clarified
Conditions and Resources	• Workplace or Simulated Workplace • CBLM • Handout • Laptop • Multimedia Projector • Paper, Pen, Pencil and Ereser • Internet Facilities • White Board and marker • Audio video device • Necessary tools • Necessary PPE
Contents	1. Team structure, roles and responsibilities 2. Roles and responsibilities of individual members 3. Communication flow and reporting structure
Training Method	• Discussion • Presentation • Demonstration • Guided Practice • Individual Practice • Project Work • Problem Solving • Brainstorming
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning

Learning Outcome -3: **Participate in team discussions**	
Assessment Criteria	1. Ideas related to team plans are contributed 2. Recommendations for improving team work are put forward
Conditions and Resources	• Workplace or Simulated Workplace • CBLM • Handout • Laptop • Multimedia Projector • Paper, Pen, Pencil, • Internet Facilities • White Board and marker • Necessary PPE
Contents	1. Team planning 2. Interpersonal communication skills 3. Team meeting process 4. OSH practice
Training Method	• Discussion • Presentation • Demonstration • Guided Practice • Individual Practice • Project Work • Problem Solving • Brainstorming
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning
Learning Outcome -4: **Work as a team member**	
Assessment Criteria	1. Effective forms of communication are used to interact with team members 2. Communication channels are followed 3. OHS practices are followed
Conditions and Resources	• Workplace or Simulated Workplace • CBLM • Handout • Laptop • Multimedia Projector • Paper, Pen, Pencil and Ereser • Internet Facilities • White Board and marker • Necessary PPE

Contents	1. Effective forms of communication 2. Communication channel 3. OSH practice
Training Method	• Discussion • Presentation • Demonstration • Guided Practice • Individual Practice • Project Work • Problem Solving • Brainstorming
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning

Unit of Competency	Develop Entrepreneurship Skills
Unit Code	GU-16-L4-V1
Module Title	Developing Entrepreneurship Skills
Module Descriptor	This module covers the knowledge, skills and attitudes required for **Developing Entrepreneurship Skills**. The learning outcome of the module include recognize concept of entrepreneurship, explain the functions of entrepreneur, explain role of entrepreneur in economic development, plan for business and marketing, explain small business and interpret reasons of failure and success in small business
Nominal Hours	15 Hours
Lerning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks: 1. Recognize concept of Entrepreneurship 2. Explain functions of Entrepreneur 3. Explain role of Entrepreneur in Economic development 4. Plan for Business and marketing 5. Explain small business 6. Interpret reasons of failure and success in small business

Lerning Outcome 1 : Recognize concept of Entrepreneurship

Assessment Criteria	1. Entrepreneurship is defined 2. Advantages of entrepreneurship is discussed 3. Strength, Weakness, Opportunity and Threat (SWOT) is analyzed for business 4. Methods of operating salon in profitable manner is discussed 5. Importance of controlling expenses and cost saving methods is discussed 6.The units of sale for different types of services are Identified 7. Future prospects of business are Identified
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools

Contents	1. Definition and Characteristics of Entrepreneurship 2. Benefits and Roles of Entrepreneurship in the Economy 3. Introduction to SWOT Analysis for Business Planning 4. Basic Business Models: Operating a Salon Profitably 5. Cost Control and Expense Management Techniques 6. Service Sales Units and Revenue Streams in Salon Business 7. Exploring Future Business Opportunities and Growth Potential
Job/ Task/ activities	1. Analyze a Business Planning using SWOT analyzing technique 2. Make a small Business Models for operating a Salon Profitably
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	১. Written Test ২. Demonstration / Role Play ৩. Interview / Oral questioning ৪. Portfolio

Lerning Outcome 2 : Explain functions of Entrepreneur

Assessment Criteria	1. Important aspects of business including selection business place, services to render & monetary matters are discussed 2. Different business situation and importance of compiling data regarding clients, income, expenses are discussed 3. Goals for sales of business is identified 4. Source and way of financing in small business is identified 5. Method for building a professional team is discussed

Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. Roles, and responsibilities **of the entrepreneur** 2. **Factors in business setup** – choosing location, identifying services/products, managing startup capital. 3. **Business record keeping** – types of data (clients, income, expenses), and its importance. 4. **Setting sales goals** – SMART goals and market demand analysis. 5. **Sources of small business finance** – personal savings, microloans, government schemes. 6. **Team building** - identifying roles, recruitment, and leadership in small businesses.
Job/ Task/ activities	1. Discuss the roles, and responsibilities of the entrepreneurship 2. Identify source and way of financing in small business
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 3 : Explain role of Entrepreneur in Economic development

Assessment Criteria	1. Plan to play vital role to boost economy by creating and providing new job opportunities are discussed 2. Method to develop hiring plan as per need of business and importance of depositing contributions in government departments are discussed 3. Methods to generate maximum profits and expansion plan of business is discussed
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Entrepreneurship and Economic Growth** – Role of entrepreneurs in job creation, GDP contribution, and industrial development. 2. **Human Resource Planning in Small Businesses** – Basics of workforce planning, recruitment methods, and legal obligations (e.g., tax, social security). 3. **Profit Maximization and Business Expansion Strategies** – Cost control techniques, reinvestment plans, scalability models, and market penetration methods
Job/ Task/ activities	1. Discuss on the role of entrepreneur for creating and providing new job opportunities and write a report on it 2. Explain the Profit Maximization and Business Expansion Strategies
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training

	11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 4 : Plan for Business and marketing

Assessment Criteria	1. Business plan is prepared as per market demands. 2. Areas of business or services which are more profitable a and popular in clients are identified 3. Services and products offered by the competitors is analyzed and business strategy is made accordingly 4. Estimate of finance is prepared for required business 5. Methods for attaining knowledge of current market trend s are discussed
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Elements of a Business Plan** – Market analysis, customer needs, goals, and operational strategies. 2. **Market Demand and Profitability Analysis** – Tools for identifying high-demand and profitable sectors. 3. **Competitor and SWOT Analysis** – Techniques to study competitors and develop strategic advantages. 4. **Financial Estimation and Budgeting** – Basics of startup cost estimation, break-even analysis, and cash flow planning. 5. **Market Research Techniques** – Use of surveys, online tools, and media to track market trends and customer behavior.
Job/ Task/ activities	1. Conduct a Market Research using survey method and online tools to track market trends and customer behavior.

Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 5 : Explain small business

Assessment Criteria	1. Small business is defined 2. Money management and cash flows are explained 3. Importance of customer satisfaction is discussed 4. Customers comfort policies is explained 5. Importance of maintenance of record of purchases, sales, inventory and list of regular customers are explained 6. Branding of business is explained 7. Methods to build team of honest workers on long term basis are explained
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Characteristics of Small Business** – Features, types, and role in local economy. 2. **Basics of Financial Management** – Cash flow, budgeting, and expense tracking.

	3. **Customer Service and Satisfaction** – Importance of service quality and comfort policies. 4. **Business Records and Inventory Management** – Keeping track of sales, purchases, and customer database. 5. **Branding and Business Identity** – Name, logo, promotion, and reputation building. 6. **Team Building and Workforce Ethics** – Hiring, motivating, and retaining trustworthy staff.
Job/ Task/ activities	1. Plan and Simulate a Small Business model
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 6 : Interpret reasons of failure and success in small business

Assessment Criteria	1. Fields of business causing loss is identified 2. Key factor for selection of proper suitable location of business place easily accessible is discussed for customers. 3. Factors annoying customers by action of workers are Identified 4. Control of utility bills especially turning off extra lights a nd ACs when client is not in service discussed 5. Importance to make purchases of best items keeping in view quality, quantity and prices are explained 6. Communicate with the customers in effective conversation and good relations are discussed 7. Time schedule is prepared for self-workers and services

Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Common causes of business failure** – poor planning, wrong product/service choice, lack of customer focus, and high operational costs. 2. **Importance of strategic location** – factors like foot traffic, visibility, accessibility, nearby competition, and parking availability. 3. **Customer service etiquette** – negative behaviors by workers (e.g., rudeness, delay, lack of attention) that drive away customers. 4. **Utility management practices** – cost-saving habits like turning off unused electrical equipment and optimizing use of lighting and air conditioning. 5. **Smart purchasing decisions** – selecting suppliers based on product quality, affordability, reliability, and appropriate stock quantities. 6. **Effective communication skills** – polite greetings, listening actively, using simple language, and building rapport to ensure customer loyalty. 7. **Time and task management** – preparing daily work schedules for self and staff to improve efficiency and consistent service delivery.
Job/ Task/ activities	1. Conduct and Present a Small Business Risk Audit and Improvement Plan
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning

	8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Detail contents of Sector Specific Modules

Unit of Competency	**Practice Occupational Safety and Health (OSH) Standard in ICT Workplace .**
Unit Code	**SU-ICT-10-L2-V1**
Module Title	**Practicing occupational safety and health (OSH) standard in ICT workplace**
Module Descriptor	This module covers the knowledge, skills and attitudes required for Practicing Occupational Safety and Health (OSH) Standard in ICT. The learning outcome of the module include identify hazard and risk in the ICT environment, apply personal safety practice and health, manage and report hazards and respond to emergencies
Nominal Hours	15 Hours
Lerning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks: 1. Identify hazard and risk in the ICT environment, 2. Apply personal safety practice and health, 3. Manage and report hazards 4. Respond to emergencies.

Lerning Outcome 1 : Identify hazard and risk in the ICT environment

Assessment Criteria	1. Common safety and health risks specific to IT workplaces are identified. 2. Workplace types and layout and conditions are assessed for compliance with OSH standards. 3. Types and appropriate usage of Personal Protective Equipment (PPE) for IT-related tasks are identified 4. Hazards are identified in ICT environment
Conditions and Resources	• Workplace or simulated workplace as training centre • Machine , Tools, Equipment, Consumable Materials, furniture and Teaching Materials as mentioned in CAD • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	1.**Common Hazards in ICT Workplaces:** Electrical risks, trip hazards from cables, repetitive strain injuries, and eye strain. 2.**OSH Standards and Workplace Layout:** Principles, ventilation, lighting, and space requirements for IT workstations. 3. **Types of Personal Protective Equipment (PPE):** Use of anti-static wrist straps, protective gloves, eye protection, and appropriate clothing in server rooms or during equipment servicing. 4. **Hazard Identification Techniques:**

	Visual inspection, checklists, and hazard reporting procedures.
Job/ Task/ activities	1. Conduct a Safety Inspection of an ICT Workstation using the safety inspection form
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 2 : Apply Personal Health and Safety Practices

Assessment Criteria	1. Ergonomically sound practices are implemented including proper workstation setup and posture. 2. Preventive measures are taken to reduce physical and mental strain. 3. Cleanliness and orderliness in the workplace are maintained to reduce risks. 4. Personal Protective Equipment (PPE) is worn and stored properly after use. 5. Workplace safety conditions are inspected and issues are reported to the designated authority.
Conditions and Resources	• Workplace or simulated workplace as training centre • Machine , Tools, Equipment, Consumable Materials, furniture and Teaching Materials as mentioned in CAD • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker

Contents	**1. Ergonomics in ICT Workplaces:** Correct chair height, monitor level, keyboard/mouse position, and seating posture. **2. Physical and Mental Health Strategies:** Eye rest techniques (20-20-20 rule), microbreaks, hydration, and stress management. **3. Workplace Cleanliness and Orderliness:** Importance of clutter-free desks, cable management, regular cleaning routines. **4 Proper PPE Use and Storage:** Identification, correct use, and safe storage of anti-static gear, gloves, **5. Inspection and Reporting Procedures:** Visually inspection Procedure, Importance of report unsafe conditions promptly. 6. Workplace safety regulations and organizational policies
Job/ Task/ activities	**Set Up an Ergonomic Workstation and Perform a Self-Safety Audit** (The learner arranges a workstation according to ergonomic principles, wears appropriate PPE if required, checks the cleanliness and safety of the area, and completes a simple personal safety checklist/report.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 3 : Manage and Report Hazards

Assessment Criteria	1. Routine checks of the immediate work area are conducted to identify hazards and risks. 2. Corrective actions are taken to mitigate risks within the scope of responsibility. Internet and social media addiction is minimized to enhance workplace focus and safety. 3. Detail records of incidents, hazards, and corrective actions are maintained as per workplace standard 4. Hazards, risks, and incidents are reported accurately and promptly to the designated authority.
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Type of Hazard** -Physical Hazard (Cables running across the floor, Slippery floor, Dust -Mechanical Hazard (Computer case) -Chemical Hazard(Display cleaning chemical, Keyboard cleaning chemical) 2. **Hazard Identification Techniques:** Common safety and health risks , Workplace observation, checklist-based inspections, and staff input. **3. Corrective Actions and Risk Control:** -Hierarchy of controls (eliminate, substitute, isolate, engineering, admin, PPE). -Promoting digital well-being by managing internet/social media use at work. **4. Incident and Hazard Reporting:** -Workplace reporting procedures, formats, and chain of command. **5. Recordkeeping Standards:** -Use of logs/registers, digital or paper-based incident reports as per organizational protocols. **6.** Workplace Type and layout
Job/ Task/ activities	**1. Conduct a Hazard Check and Prepare a Report** (The learner performs a routine inspection of a computer lab or office, identifies hazards (including behavioral ones like social media misuse), applies basic corrective actions (e.g., signage or

	cable management), and prepares a brief incident/hazard report for submission.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 4 : Respond to Emergencies

Assessment Criteria	1. Emergencies are identified and reported according to workplace protocols. 2. Workplace emergency response procedures are followed effectively as per organizational policy during incidents. 3. Basic first aid is administered or assistance is sought from qualified personnel as required.
Conditions and Resources	• Workplace or simulated workplace as training centre • Machine , Tools, Equipment, Consumable Materials, furniture • and Teaching Materials as mentioned in CAD • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	1. **Types of Workplace Emergencies:** Fire, electrical shock, equipment malfunction, medical emergencies. 2. **Emergency Response Procedures:**

	Evacuation routes, alarm systems, assembly points, and use of fire extinguishers. 3.**Emergency Reporting Protocols:** • Who to contact, how to communicate incidents, and documentation required. 4. **Basic First Aid Knowledge:** • CPR basics, treatment for cuts, burns, and how to call for medical help.
Job/ Task/ activities	**Participate in a Simulated Emergency Drill** (The learner takes part in a planned emergency simulation (e.g., fire or medical emergency), follows response procedures (e.g., alerting others, evacuating), and either administers basic first aid or identifies the correct personnel to notify.
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Unit of Competency	Comply with Ethical Standards in the ICT Workplace
Unit Code	SU-ICT-04-L3-V1
Module Title	Complying with ethical standards in the ICT workplace
Module Descriptor	This module covers the knowledge, skills and attitudes required for Complying with Ethical Standards in the ICT Workplace. The learning outcome of the module include uphold the requirements of clients, deliver quality products and services, maintain professionalism at workplace and maintain workplace code of conduct.
Nominal Hours	15 Hours
Lerning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks: 1. Uphold the requirements of clients 2. Deliver quality products and services 3. Maintain professionalism at workplace 4. Maintain workplace code of conduct.

Lerning Outcome 1 : Uphold the requirements of clients

Assessment Criteria	1. Clients' requirements are identified. 2. Confidentiality of information is maintained in accordance with workplace policies / organizational policies/ national legislation. 3. Potential conflicts of interest are identified and involved parties of potential conflicts are notified 4. Proprietary rights of client/customer is asserted.
Conditions and Resources	• Workplace or simulated workplace as a training centre • All related machines, Tools, equipments, consumable mateials, teaching aids, Furnitures, Learning materials etc. as per mentioned in Course Accreditation Documents (CAD) • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Client requirement analysis** – techniques to understand client needs through questioning, listening, and documentation in ethical point of view

	2. **Confidentiality protocols** – understanding organizational confidentiality policies, non-disclosure agreements, and data protection laws. 3. **Conflict of interest awareness** – recognizing situations where personal or professional interests may compromise service quality or fairness. 4. **Proprietary rights and client ownership** – knowledge of intellectual property rights, client data ownership, and ethical handling of client resources or materials
Job/ Task/ activities	1. Carry out Client Service Documentation and Privacy Management considering workplace ethics (Prepare a client information sheet, collect client needs/preferences, ensure data is stored securely, and identify any potential conflict of interest in service delivery—demonstrating respect for client confidentiality and proprietary rights).
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 2 : Deliver quality products and services

Assessment Criteria	1. Products and services are provided according to the clients' requirements. 2. Work is completed as per standards. 3. Quality processes are implemented when developing products and services.

Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	**1. Client-Centered Service Delivery** – Techniques for understanding and meeting client expectations. **2. Workplace Standards and Procedures** – Industry standards, checklists, and standard operating procedures (SOPs). **3. Quality Assurance and Control Methods** – Basic quality tools (e.g., inspection, feedback, testing) and continuous improvement practices.
Job/ Task/ activities	1. Perform Quality Check and Delivery a Customized Product/Service complying with ethical standard of the workplace (Develop or Deliver a product/service (e.g., a customized printed item, a small repair, or a service session) by following client instructions, applying quality checks during the process, and ensuring the final output meets defined standards.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 3 : Maintain professionalism at workplace

Assessment Criteria	1. Work processes are delivered as per standards. 2. Skills, knowledge and qualifications are presented in a professional manner. 3. Services and products developed by self and others are delivered as per workplace standard. 4. Unbiased and objective information are provided to clients. 5. Realistic estimates for time, cost and delivery of outputs are presented during negotiation.
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	**1. Professional Communication and Presentation** - Adherence to SOPs, codes of conduct, and ethical behavior. – Presenting qualifications, skills, and work experience effectively. 2. **Quality of Work and Collaboration** – Meeting quality benchmarks in individual and team efforts. 3. **Objectivity and Integrity in Client Interactions** – Importance of providing factual, neutral, and honest information. 4. **Project Estimation and Planning** – Basics of estimating time, cost, and resources for tasks.
Job/ Task/ activities	Prepare and Present a Professional Service Proposal (Develop a short proposal for a client that includes a description of services/products, clear cost and time estimates, presentation of your qualifications, and an explanation of how standards and professionalism will be maintained throughout the task.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation

	9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 4 : Maintain workplace code of conduct.

Assessment Criteria	1. Workplace code of conduct are interpreted 2. Workplace code of conduct is followed.
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagnostic Software tools
Contents	1. **Definition and Purpose of Code of Conduct** – Importance of professional behavior, ethics, and respect at the workplace. 2. **Key Elements of Workplace Conduct** – Punctuality, dress code, communication, teamwork, confidentiality, and responsibility. 3. **Consequences of Misconduct** – Disciplinary actions, legal implications, and impact on workplace environment.
Job/ Task/ activities	Demonstrate Code of Conduct in a Simulated Workplace (Review the workplace code of conduct document, identify key rules, and participate in a role-play or simulation where proper conduct is demonstrated—such as professional communication, punctuality, and teamwork—while reflecting on potential violations and corrective actions.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration

	3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Unit of Competency	**Use Internet and Access Resources**
Unit Code	**OU-ICT-05-L3-V1**
Module Title	**Using Internet and Access Resources**
Module Descriptor	This module covers the knowledge, skills and attitudes required for using internet and access resources. The learning outcome of the module include prepare resources for sharing, access resources using the Internet and use e-mail
Nominal Hours	20 Hours
Lerning Outcome	1. Prepare resources for sharing, 2. Access resources using the Internet 3. Use e-mail

Lerning Outcome 1 : Prepare resources for sharing,

Assessment Criteria	1. The document is scanned with the required file format 2. The file is converted using file conversion tools 3. File compression tools are used for compression and extraction. 4. Multiple PDF documents are joined

Conditions and Resources	• **Conditions:**
	  • All related machines, Tools, equipments, consumable mateials, teaching aids, Furnitures, Learning materials etc. as per mentioned in Course Accreditation Documents (CAD)
	  • Access to a desktop/laptop with internet connectivity.
	  • A hardcopy document available for scanning.
	  • A task that simulates the need to send multiple formatted documents via email or cloud.
	• **Resource Requirements:**
	  • **Hardware:**
	  o Scanner or smartphone with scanning app
	  o Computer or smartphone for file handling
	  • **Software/Tools:**
	  o Scanning tool (e.g., Adobe Scan, scanner driver software)
	  o File conversion tool (e.g., MS Word, online converters)
	  o Compression tool (e.g., WinRAR, 7-Zip)
	  o PDF merger (e.g., Smallpdf, iLovePDF)
	  • **Storage & Sharing Platform:**
	  o Google Drive, Dropbox, or Email system for sharing

Contents	1. **Document Scanning Basics:** • Operating scanners or scanner apps, selecting file formats (PDF, JPEG), Types of documents and Types file format. 2. **File Conversion Tools:** • Use of tools like PDF converters (e.g., Word to PDF, image to PDF, etc.), Offline Tools and Online Tools 3. **File Compression and Extraction:** • Using ZIP/RAR tools (e.g., WinRAR, 7-Zip) for compressing and extracting files. 4. **PDF Merging Techniques:** • Tools or software for combining multiple PDFs (e.g., Adobe Acrobat, online tools like Smallpdf or iLovePDF).
Job/ Task/ activities	**Prepare and Share a Compressed PDF Resource Pack** (The learner scans a document, converts it to PDF, compresses the file using a tool, merges it with another PDF if required, and prepares it for email or cloud-based sharing).
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 2 : Access Resources using the Internet

Assessment Criteria	1. The internet browser is selected and installed. 2. Browser setting is carried out for smooth operation. 3. Resources are accessed using Search engines. 4. Resources are preserved in local storage.

Conditions and Resources	• **Conditions:**
	  • All related machines, Tools, equipments, consumable mateials, teaching aids, Furnitures, Learning materials etc. as per mentioned in Course Accreditation Documents (CAD)
	  • Individual or group task in a computer lab or home setting.
	  • Internet access available.
	  • Task prompt provided (e.g., "Find and save a government guideline on online safety").
	• **Resource Requirements:**
	  • **Hardware:** Computer or smartphone with internet access
	  • **Software:** Web browser (Chrome, Firefox, etc.), File explorer
	  • for local storage organization
	  • **Internet Tools:** Search engines (Google, Bing), Downloa capability (PDF, Word, images)

Contents	1. **Internet Browsers:**
	  • Types (e.g., Google Chrome, Mozilla Firefox, Microsoft Edge).
	  • Basic installation steps.
	2. **Browser Settings:**
	  • Clearing cache, setting home page, enabling/disabling extensions, managing downloads.
	3. **Using Search Engines:**
	  • How to use Google, Bing, etc. effectively (keywords, filters).
	  • Safe browsing practices.
	4. **Saving Resources:**
	  • Downloading files and saving web pages.
	  • Organizing files in folders on local storage (desktop, documents, etc.).

Job/ Task/ activities	**Search and Download Learning Materials from the Internet** (The learner installs a browser, adjusts basic settings, searches for a topic (e.g., ICT safety guidelines), downloads a relevant PDF or document, and saves it in an organized local folder)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical)

	4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 3 : Use e-mail

Assessment Criteria	1. E-mail account is created with a selected e-mail service provider. 2. E-mail operations are performed as required 3. E-mail messages are printed.

Conditions and Resources	• **Conditions:**
	  • Internet-enabled computer or smartphone.
	  • Sample scenario (e.g., "Send your CV to a training center email address").
	  • Access to a printer or print-to-PDF option.
	• **Resource Requirements:**
	  • **Hardware:**
	  o Computer or smartphone
	  o Printer (optional)
	  • **Software/Tools:**
	  o Web browser or email app (e.g., Gmail, Outlook)
	  o Internet connection
	  • **Task Materials:**
	  o Sample document to attach
	  o Email addresses for sending

Contents	1. **Email Account Creation:**
	  o Common service providers (e.g., Gmail, Yahoo, Outlook).
	  o Required information for account setup (name, password, recovery options).
	2. **Email Operations:**
	  o Composing, sending, replying, forwarding.
	  o Attaching files, inserting links, and using CC/BCC.
	  o Email etiquette and safety (avoiding spam/phishing).
	3. **Printing Emails:**
	  o Locating the print option within email clients.

	○ Selecting printers and saving emails as PDFs.
Job/ Task/ activities	**Create and Use an Email Account for Official Communication"** (The learner creates a personal email account, composes and sends an email with an attachment to a given address, then prints the sent email.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Unit of Competency	Maintain Inventory and Participate in Professional Development Activities
Unit Code	SU-ICT-LSM-12-L3-V1
Module Title	Maintaining Inventory and Participate in Professional Development Activities
Module Descriptor	This module covers the knowledge, skills and attitudes required for **m**aintaining inventory and participate in professional development activities. The learning outcome of the module include maintain inventory and identify and participate in professional development activities.
Nominal Hours	20 Hours
Lerning Outcome	1. Maintain inventory 2. Identify and participate in professional development activities.

Lerning Outcome 1 : Maintain inventory

Assessment Criteria	1. Inventory levels of spare parts and components are monitored and maintained using inventory tools. 2. Stock records are updated accurately to reflect inventory changes. 3. Orders for replenishing/restocking inventory are placed timely to avoid shortages. 4. Received inventory is checked against purchase orders for accuracy and quality. 5. Inventory storage is organized to facilitate easy access and identification. 6. Damaged or obsolete parts are identified and disposed of following company policies. 7. Reports on inventory usage and trends are prepared and analyzed for decision-making.

Conditions and Resources	• **Conditions:**
	  • Simulated or real work environment (e.g., ICT lab or store).
	  • Predefined inventory list and simulated purchase/delivery orders.
	  • Given thresholds for reordering and disposal guidelines.
	• **Resource Requirements:**
	  • **Hardware:**
	  o Computer with spreadsheet or inventory software
	  • **Software/Tools:**
	  o Excel, Google Sheets, or simple inventory management app
	  • **Inventory Materials:**
	  o Sample or real ICT spare parts/components
	  o Dummy or actual purchase orders and delivery records
	  • **Documentation:**
	  o Inventory log templates

	○ Company policy on damaged/obsolete items ○ Sample inventory usage report format
Contents	1. **Inventory Management Tools:** • Use of inventory software (e.g., Excel, Google Sheets, or specialized tools like Zoho Inventory, Barcode scanners). • Manual vs digital stock tracking. 2. **Stock Record Updating:** • Recording incoming and outgoing items. • Maintaining accurate quantity and item descriptions. 3. **Reordering Process:** • Minimum stock levels, lead time, and reorder point concepts. 4. **Receiving and Verifying Inventory:** • Matching items with purchase orders. • Inspecting quantity and quality upon delivery. 5. **Storage Practices:** • Labeling, categorizing, and systematic storage layout. 6. **Obsolete/Damaged Inventory Handling:** • Identifying expired/damaged items. • Company disposal or return policies. 7. **Inventory Reporting:** • Creating usage summaries and identifying trends (e.g., fast-moving vs slow-moving stock).
Job/ Task/ activities	**Monitor, Record, and Replenish Spare Parts Inventory** (The learner uses a spreadsheet or inventory app to track ICT-related spare parts, updates stock changes, checks deliveries, identifies damaged items, and generates a simple usage report with recommendations)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring

Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 2 : Identify and participate in professional development activities

Assessment Criteria	1. Training opportunities for professional development activities relevant to servicing are identified and undertaken. 2. Participation in professional development activities is recorded and reported. 3. New skills and techniques learned from professional development activities are practiced. 4. Industry publications and resources are reviewed regularly to stay informed about new trends. 5. Feedback from various sources is requested and used to improve skills and knowledge. 6. A personal development plan is maintained and goals are set for continuous improvement.

Conditions and Resources	• **Conditions:**
	  • Learner is in a work-based or simulated ICT servicing environment.
	  • Assigned mentor or supervisor available to review performance and provide feedback.
	  • At least one professional development opportunity is accessible.
	• **Resource Requirements:**
	  • **Hardware/Connectivity:**
	  o Computer or smartphone with internet access
	  • **Software/Tools:**
	  o Word processor or PDP template
	  o Email or document sharing platform for submitting reports
	  • **Learning Materials:**
	  o Online training platform (e.g., Coursera, YouTube, vendor-specific portals)
	  o Access to online or printed industry publications
	  • **Documentation Tools:**
	  o Feedback form template
	  o Professional development log
	  o Personal Development Plan format (paper or digital)

Contents	1. **Types of Professional Development Activities:** • Technical training, industry certifications, vendor-led workshops, online courses, seminars. 2. **Recording and Reporting Participation:** • Use of training logs, certificates, e-portfolios, and reporting templates. 3. **Applying New Skills:** • Methods for practicing and integrating newly learned tools/techniques into regular work. 4. **Reviewing Industry Resources:** • Identifying credible sources like trade magazines, tech blogs, vendor newsletters, forums (e.g., IEEE, TechCrunch). 5. **Seeking and Using Feedback:** • Types of feedback (peer, supervisor, customer) and methods to apply suggestions. 6. **Maintaining a Personal Development Plan (PDP):** • Structure of a PDP (goals, actions, timelines, reflection) and how to update it regularly.
Job/ Task/ activities	Develop and Implement a Personal Professional Development Plan" (The learner identifies and participates in a relevant training (e.g., ICT servicing webinar), documents the activity, applies the learned skills on the job, reviews two industry articles, seeks feedback from a peer or supervisor, and updates a personal development plan with future goals).
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Unit of Competency	Communicate with Customer and Provide Customer Service
Unit Code	**SU-ICT-LSM-13-L3-V1**
Module Title	**Communicating with Customer and Provide Customer Service**
Module Descriptor	This module covers the knowledge, skills and attitudes required for communicating with customer and provide customer service. The learning outcome of the module communicate with customers, provide maintenance guidelines and gather and utilize customer Feedback
Nominal Hours	30 Hours
Lerning Outcome	1. Communicate with customers, 2. Provide maintenance guidelines 3. Gather and Utilize customer Feedback

Lerning Outcome 1 : Communicate with customers

Assessment Criteria	1. Technical issues are explained clearly to customers in a non-technical language. 2. Regular updates on the repair status are communicated to customers through appropriate communication channels. 3. Customer queries are addressed promptly, and solutions are provided in a friendly and professional manner. 4. Feedback from customers is gathered and recorded using various tools to improve service quality. 5. Customers are informed about service agreement details.

Conditions and Resources	• **Conditions:**
	  • Conducted in a real or simulated ICT service environment.
	  • At least one customer interaction scenario is provided (real or mock).
	  • Feedback and communication tasks must be logged or demonstrated.
	• **Resource Requirements:**
	  • **Hardware/Connectivity:**
	  o Computer or mobile phone with internet/sms access
	  o Printer for service agreements or feedback forms
	  • **Software/Tools:**
	  o Email, messaging app, or CRM system (if available)
	  o Feedback collection platform (e.g., Google Forms)
	  • **Documents and Templates:**
	  o Sample service agreement
	  o Customer interaction log
	  o Feedback form template

Contents	1. **Simplifying Technical Language:** • Techniques for explaining complex issues in layman's terms.

	• Avoiding jargon and using relatable analogies. 2. **Customer Communication Channels:** • Appropriate use of phone calls, SMS, email, WhatsApp, or service desk software. 3. **Customer Service Etiquette:** • Active listening, politeness, professionalism, and empathy when addressing queries. 4. **Feedback Collection Tools:** • Printed forms, Google Forms, verbal feedback, customer satisfaction apps. 5. **Service Agreement Details:** • Key elements: service scope, cost estimates, timelines, warranty terms. • Importance of transparency and clarity when explaining agreements.
Job/ Task/ activities	**Simulate a Full Customer Communication Cycle** (The learner engages in a role-play or real task where they: • Explain a technical issue to a non-technical customer, • Provide a status update through a chosen channel, • Answer a service-related query, • Collect customer feedback using a form, • Clearly explain service agreement terms.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 2 : **Provide maintenance guidelines**

Assessment Criteria	1. Basic maintenance tips are provided to customers to prevent common issues. 2. Instructions on using security software and performing regular system updates are demonstrated.

	3. Safe handling and proper storage of laptops are explained to the customers. 4. Customers are informed about the importance of regular system protection. 5. Support resources are recommended for further assistance.
Conditions and Resources	• **Conditions:** • Real or role-play interaction with a customer/user. • Practical demonstration expected, either on a real laptop or simulated system. • A checklist or guide is provided to ensure coverage of all criteria. • **Resource Requirements:** • **Hardware:** o Laptop/computer for demo o External storage (optional) • **Software/Tools:** o Antivirus software (free/trial version) o Access to OS update settings • **Materials/Documents:** o Maintenance checklist or printed guide o Sample support resources (URLs, helpline numbers)
Contents	1. **Basic Preventive Maintenance:** o Tips like avoiding dust, regular rebooting, disk cleanup, battery care. 2. **Security Software and Updates:** o Importance of antivirus, firewall, auto-updates for OS and applications. o How to enable/disable updates or schedule scans. 3. **Safe Handling and Storage:** o Avoiding food/liquids near laptops, proper bag use, avoiding extreme temperatures. 4. **System Protection Importance:** o Explaining data loss risks, malware threats, and benefits of regular maintenance. 5. **Support Resources:** o Referring to manuals, official websites, YouTube tutorials, or support hotlines.
Job/ Task/ activities	**Demonstrate and Explain Laptop Maintenance Guidelines to a Customer"** (The learner simulates or performs a task where they provide a customer with clear maintenance tips, demonstrate how to update

	software and use antivirus, explain storage and handling best practices, and share support links or helpline info)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Lerning Outcome 3 : Gather and Utilize customer Feedback

Assessment Criteria	1. Feedback from customers is gathered systematically through structured feedback forms or surveys. 2. Feedback is analyzed to identify areas for service improvement. 3. Changes in service practices are completed based on customer feedback. 4. Customer satisfaction levels are monitored and reported regularly.

Conditions and Resources	• **Conditions:**
	  • Conducted in a real or simulated service environment.
	  • Customers (real or role-play) available for giving feedback.
	  • Task timeline includes collection, analysis, and reporting phases.
	• **Resource Requirements:**
	  • **Hardware:**
	  o Computer or smartphone with internet access
	  • **Software/Tools:**
	  o Google Forms, Excel, Word (for survey and analysis)
	  o Printer (optional, for paper forms)
	  • **Documents and Templates:**
	  o Sample feedback form

	○ Feedback analysis worksheet ○ Report template for summarizing satisfaction levels and service changes
Contents	1. **Feedback Collection Methods:** • Structured tools such as printed feedback forms, online surveys (Google Forms, Microsoft Forms). • Timing of feedback (post-service, follow-up). 2. **Feedback Analysis:** • Basic techniques: categorizing feedback, identifying trends, using rating scales. 3. **Service Improvement Based on Feedback:** • Examples of how feedback can inform changes in customer communication, repair time, etc. 4. **Monitoring Customer Satisfaction:** • Setting satisfaction indicators (e.g., rating scores, complaints logged). • Creating summary reports with graphs or comments.
Job/ Task/ activities	**Collect and Analyze Customer Feedback to Improve Service Delivery"** (The learner creates and uses a feedback form to collect input from at least three customers, analyzes the responses, identifies one area for improvement, documents the change, and presents a short report on customer satisfaction.)
Training Delivery Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration / Role Play 3. Interview / Oral questioning 4. Portfolio

Deatail contents of Occupation Specific Modules

Unit of Competency	**Conduct Diagnostics and Assess Laptop Performance**
Unit Code	OU-ICT-LSM-01-L3-V1
Module Title	**Conducting Diagnostics and Assess Laptop Performance**
Module Descriptor	This module covers the knowledge, skills and attitudes required for conducting diagnostics and assess laptop performance. The learning outcome of the module include interpreting electronic and electrical components identifying potential issues through visual inspections, diagnostic tests, and customer interactions.
Nominal Hours	**60 Hours**
Learning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks : 1. Interpret electronic and electrical components 2. Perform visual inspections 3. Run diagnostic tests 4. Gather and analyze information

Learning Outcome -1: Interpret electronic and electrical components	
Assessment Criteria	1. Common electronic and electrical components are identified using visual and label-based identification methods 2. Common electronic and electrical components are interpreted. 3. Components are listed according to label-based identification methods.
Conditions and Resources	• Workplace or Simulated Workplace as Training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagonestic Software tools
Contents	**1. Electronic and Electrical Components** • Definition and types of components (active, passive, electromechanical) • Importance of component identification in laptop servicing , the components include 1.1 Electronic components 1.1.1. Diode 1.1.2. LED 1.1.3. Transistor 1.1.4. Crystal 1.1.5. IC / Chip 1.1.6. MOSFET 1.1.7. UJT

	1.1.8. Zener Diode 1.2 Electrical components 1.2.1. Resistor 1.2.2. Inductor 1.2.3. Capacitor 1.2.4. Transformer 1.2.5. Fuse 2. Visual Identification of Components • Recognizing components by shape, size, and package • Through-hole vs. SMD (Surface Mount Devices) • Common physical appearances and markings **3. Label-Based Identification Techniques** • Reading component codes and markings: o Resistor color codes o Capacitor codes (e.g., 104, 473) o Diode and transistor labeling (e.g., 1N4001, BC547) o IC number labeling (e.g., LM393, 555) • Manufacturer markings and datasheet lookup • QR codes and barcodes (in modern components) **4. Passive Components** • **Resistors**: Types, color code reading, function in circuits • **Capacitors**: Electrolytic, ceramic, tantalum; labeling and uses • **Inductors**: Basic functions and label conventions **5. Active Components** • **Diodes**: General purpose, Zener, Schottky; circuit role and identification • **Transistors**: NPN/PNP, MOSFET; part numbers and applications • **ICs (Integrated Circuits)**: Function, identification, pin configuration **6**. Electromechanical Components • Switches and buttons • Relays • Connectors and ports (USB, HDMI, charging jacks) 7. Power Components and Voltage Regulation • Voltage regulators (e.g., 7805, LM317) • Battery connectors and BMS ICs • MOSFETs in power control circuits 8. Parts and Components Used in Laptop-Servicing 8.1 External parts and components ▪ Top cover ▪ Bezel ▪ Display Panel

	▪ Uppercase ▪ Keyboard ▪ Touch pad ▪ Bottom cover ▪ External Battery ▪ Power Bank ▪ DC Adapter ▪ AC Power Cable 8.2 Internal parts and components ▪ Motherboard ▪ CPU/SOC ▪ Graphical processing unit (GPU) ▪ Hard Disk Drive ▪ Optical drive ▪ Bluetooth Module ▪ Speaker ▪ WiFi Module ▪ RAM ▪ SSD ▪ Power Backup Battery ▪ CMOS Battery 8.3 Other related parts and components ▪ Power supply circuit components (charging ICs, power FETs) ▪ Display and video circuit components (inverter ICs, filters) ▪ Audio and LAN section components ▪ RAM and CPU voltage supply components **9. Schematic Symbols and Circuit Interpretation** • Standard symbols of components • How to match physical components with circuit diagrams **10. Tools and Resources for Identification** • Multimeter use for component testing • Using online databases and datasheets • Component identifier tools (hardware and apps)
Job/ Task/ Activity	1. Identify and list common electronic and electrical components of the laptop using proper visual identification methods
Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion

	5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome -2: Perform visual inspections of Electronic and Electrical Components of Laptop	
Assessment Criteria	1. Laptops are visually inspected for physical damage or irregularities. 2. Signs of wear, cracks, or loose components are identified and documented. 3. External and Internal components are inspected to identify physical damage or trash. 4. External ports and connectors are inspected to identify physical damage or trash. 5. Internal port and connectors are checked for signs of dust accumulation or overheating.
Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	**1. Tools and Safety for Visual Inspection** • Basic hand tools for inspection (torch, magnifying glass, ESD-safe tools) • Personal Protective Equipment (PPE) • ESD (Electrostatic Discharge) precautions and grounding techniques • Safety protocols during disassembly and inspection **2. Types of Physical Damages and Irregularities** • Common physical damages: cracks, dents, burnt areas, broken hinges, etc. • Signs of tampering or misuse • Visual symptoms of wear and tear • Swollen or leaking capacitors, discolored components, etc. **3. Component-Wise Inspection Guidelines** • **External Components**: screen, keyboard, casing, touchpad, hinges, battery and speaker grills

	• **Internal Components**: motherboard, RAM, SSD/HDD, cooling fan, heatsink, battery connectors, power circuit • **Ports and Connectors**: USB, HDMI, power port, audio jack, LAN, SD card slot, internal connectors **4. Common Issues Found in Ports and Connectors** • Physical damage to ports (bent pins, loose sockets) • Corrosion or discoloration of connectors • Accumulation of dirt, debris, or foreign particles • Signs of overheating or burning **5. Visual Clues of Electrical Issues** • Burn marks or soot near power sections • Melted plastic or insulation • Odor indicating burnt components • Signs of overheating: discoloration, warping **6. Inspection Documentation and Reporting** • Methods of recording inspection findings (forms, photos, checklists) • Using fault codes, serial numbers, and visual tags • Classifying faults: minor, moderate, critical • Preparing inspection reports for maintenance or repair **7. Environmental Considerations** • Working in a clean and static-free environment • Handling dust and trash in laptop compartments • Importance of proper lighting and magnification
Job/ Task/ Activity	1. Inspect visually for physical damage or irregularities of laptop and identify the signs of wear, cracks, or loose components 2. Check external and internal components, connectors and ports to identify physical damage , trash or signs of dust
Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio

Learning Outcome-3:	Run diagnostic tests
Assessment Criteria	1. Diagnostic tools and software are selected and used to run hardware and software tests. 2. Test results are analyzed to identify hardware faults or software malfunctions. 3. Diagnostic logs are saved and reviewed for detailed analysis. 4. Tests are repeated (if necessary) to confirm findings and ensure accuracy.
Conditions and Resources	• Workplace or Training Centre as simulated workplace • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	**1. Diagnostic Tools and Software** • Importance of diagnostics in laptop repairing, • Types of laptop problems: hardware vs. software • Role of preventive and corrective diagnostics • Types of diagnostic tools: built-in, third-party, manufacturer/vendor -provided • Popular diagnostic software: ▪ Windows Memory Diagnostic Tool ▪ BIOS/UEFI diagnostics ▪ HWiNFO, HWMonitor, CPU-Z ▪ CrystalDiskInfo, HDDScan, HD Tune, ▪ Hard Disk Sentinel ▪ MemTest86 ▪ OEM tools (Dell SupportAssist, Lenovo Diagnostics, HP PC Hardware Diagnostics) • Bootable diagnostic environments (Live USB tools like Hiren's Boot CD) **2. Features of diagnostic tools** • Matching tools to specific issues (e.g., disk tools for storage issues) • Criteria for selecting diagnostic software (compatibility, reliability, features) • Understanding basic user interfaces and features of diagnostic software **3. Hardware and Software Tests** • Step-by-step procedure for running: ▪ Memory tests ▪ Hard Drive tests (read/write errors, bad sectors) ▪ CPU/GPU stress tests ▪ Battery health check

	▪ Motherboard and peripheral tests • Software-related checks: OS stability, application errors, driver conflicts **4. Diagnostic Test Results** • Test output formats (logs, graphical reports, error codes) • Common indicators of hardware faults (e.g., SMART errors, overheating) • Software error messages and their implications • Comparing normal vs. abnormal readings (e.g., temperature ranges, disk health) • Importance of repeat testing for accuracy • Strategies to isolate intermittent faults • Validating findings across multiple tools **5. Diagnostic Logs** • Types of diagnostic logs (event logs, scan results, reports) • How to access and interpret logs from: ▪ Windows Event Viewer ▪ Diagnostic software • Best practices for saving and organizing diagnostic data for future use • Ethical handling of user data during diagnostics **6. Limitations of Diagnostic Tests** • False positives/negatives in diagnostics • Situations where manual inspection is necessary • Role of experience in supplementing diagnostics **7. Reporting and Communicating Diagnostic Findings** • Documenting findings in a structured format • Communicating issues clearly to customers or supervisors • Recommending further action: repair, replacement, or escalation
Job/ Task/ Activity	1. Perform hardware and software tests by running diagnostic tools and software and anylyze the test result
Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play

	6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome-4:	Gather and analyze information of laptop diagnostics and Assess Laptop Performance
Assessment Criteria	1. Customer reports and usage patterns are gathered to understand the issues. 2. Collected data is analyzed to pinpoint the root cause of the problem. 3. Previous repair history is reviewed to identify recurring issues. 4. Clear and concise diagnostic reports are prepared and presented to customers or supervisors. 5. Cleanup procedures for excess solder and flux residues are performed.
Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and Marker
Contents	**1. Customer Reports and Usage Patterns** • Techniques for effective customer communication and information gathering • Importance of understanding usage patterns in diagnosing issues • Common symptoms and their correlation with underlying problems • Creating and using diagnostic questionnaires/checklists 2. **Data Collection and Analysis Techniques** • Tools and software used for system diagnostics (e.g., HWMonitor, CPU-Z, CrystalDiskInfo) • Interpreting system logs and error messages (Event Viewer, BIOS logs) • Understanding performance metrics: CPU usage, memory usage, disk health, and temperature

	• Basic concepts in troubleshooting methodologies (e.g., flowchart-based diagnostics, root cause analysis)
	
	3. Reviewing Repair History and Identifying Recurring Issues
	
	• Importance of maintaining service logs and repair history
	• Techniques for analyzing historical data to identify patterns
	• Understanding Mean Time Between Failures (MTBF) and predictive maintenance concepts
	
	4. Preparing Diagnostic Reports
	
	• Elements of a standard diagnostic report
	  o Problem description
	  o Data collected
	  o Analysis/findings
	  o Recommended action
	• Report writing skills: clarity, conciseness, and professionalism
	• Formats for presenting diagnostics to customers or supervisors (oral and written)
	
	5. Laptop Performance Assessment
	
	• Benchmarks for normal laptop performance
	• Performance testing tools and their usage (PassMark, PCMark, etc.)
	• Comparison of current performance vs. manufacturer standards
	
	6. Soldering and Cleanup Techniques
	
	• Basic theory of soldering in laptop repairs (replacing ports, ICs, etc.)
	• Importance of cleaning excess solder and flux residues
	• Types of flux and their residue characteristics
	• Tools and methods for effective cleanup (isopropyl alcohol, flux remover, anti-static brushes)
	
	7. Safety and ESD Precautions in Diagnostics
	
	• Electrostatic discharge (ESD) awareness
	• Safe handling of internal laptop components
	• Personal and environmental safety precautions during diagnostics and repairs
	
	8. Ethical and Professional Practices in Diagnostics
	
	• Privacy and confidentiality of customer data
	• Communicating the findings of diagnosis with transparency

	• Customer service principles in a technical environment
Job/ Task/ Activity	1. Analyze the root cause and recurring issues of the laptop and assess the laptop performance 2. Prepare diagnostic reports and presented to customers and or concern authority.
Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning **4.** Portfolio

Unit of Competency	**Troubleshoot and Repair Software Issues**
Unit Code	**OU-ICT-LSM-02-L3-V1**
Module Title	**Troubleshooting and Repairing Software Issues**
Module Descriptor	This module covers the knowledge, skills and attitudes required for Troubleshooting and Repairing Software Issues. The learning outcome of the module include Install and Configure Operating Systems, Diagnose Software Issues, Remove Malware and Viruses and Troubleshoot Network Issues.
Nominal Hours	**60 Hours**
Learning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks: 1. Install and Configure Operating Systems, 2. Diagnose Software Issues, 3. Remove Malware and Viruses and 4. Troubleshoot Network Issues.
Learning Outcome -1: Install and Configure Operating Systems	
Assessment Criteria	1. Operating systems are selected based on hardware compatibility. 2. Installation media are prepared and verified. 3. BIOS configuration is performed as per requirements. 4. Operating systems are installed following standard procedures. 5. System settings and drivers are configured after installation.
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagonestic Software tools
Contents	**1. Types and Features of Operating Systems** • Windows, Linux, macOS • 32-bit vs 64-bit, client vs server OS 2. **Hardware and OS Compatibility** • Minimum hardware requirements • Compatibility checks (CPU, RAM, storage, drivers) 3. **Installation Media Preparation** • ISO files, bootable USB/DVD creation • Tools: Rufus, Ventoy, Windows Media Creation Tool 4. **BIOS/UEFI Fundamentals** • Accessing BIOS/UEFI • Boot order, secure boot, legacy vs UEFI modes 5. **Operating System Installation Process** • Partitioning and formatting

	• Installation steps and troubleshooting 6. **Post-Installation Configuration** • Installing device drivers • Setting system date/time, user accounts, updates
Job/ Task/ Activity	1. Install operating systems following standard procedures and configure system settings and drivers after installation.
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome -2: Diagnose Software Issues	
Assessment Criteria	1. Symptoms of software issues are documented. 2. Diagnostic tools are used to identify software issues. 3. Problematic applications or drivers are reinstalled or updated. 4. System logs are reviewed to trace software faults.
Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	**Common Software Issues and Symptoms** • Application crashes, freezing, error messages • Slow performance, boot errors **Diagnostic Tools and Utilities** • Task Manager, Event Viewer • Windows Reliability Monitor, System File Checker (SFC), antivirus/malware scanners • Network Analyzers

	Software and Driver Management • Updating/reinstalling applications and drivers • Safe Mode and Clean Boot concepts **System Logs** • Types of logs (Application, System, Security) • Identifying error codes and fault patterns
Job/ Task/ Activity	1. Reinstall or update problematic applications or drivers by reviewing the system logs to trace software faults.
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome-3:	Remove Malware and Viruses
Assessment Criteria	1. Antivirus and anti-malware tools are used to scan systems. 2. Infections are quarantined and removed following protocols. 3. System performance is monitored post-removal. 4. Security settings are adjusted to prevent future infections.
Conditions and Resources	• Workplace or Training Centre as simulated workplace • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker

Contents	1. **Malware Issues** • Driver Conflicts • Malware Infections • OS Corruption 2. **Types of Malware and Their Effects** • Viruses, worms, trojans, spyware, ransomware 3. **Common Antivirus and Anti-Malware Tools** • McAfee • Malwarebytes • Bitdefender • Norton 360 • Avast • Windows Defender / Microsoft Defender • AVG AntiVirus • Kapersky Security • ESET Cyber Security • Avira • Panda Security • TotalAV • Hitmanpro • ADwcleaner • Full scan vs quick scan, real-time protection 4. **Malware Removal Procedures** • Quarantine vs delete • Safe mode scanning and use of boot-time scanners 5. **Post-Removal System Monitoring** • Checking system performance and behavior • Identifying residual effects of malware 6. **Basic Security Settings and Best Practices** • Enabling firewalls and automatic updates • Safe browsing habits and software installation policies
Job/ Task/ Activity	1. Quarantine and remove infections using antivirus following standard protocols and adjust security settings to prevent future infections.
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship

	10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome-4:	**Troubleshoot Network Issues**
Assessment Criteria	1. Network connections are checked for physical faults. 2. Network configuration settings are reviewed and adjusted. 3. Connectivity issues are resolved using standard procedures. 4. Network security settings are tested and updated.
Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and Marker
Contents	1. **Network Components and Topology** • Cables, switches, routers, network interfaces • LAN vs WAN, wired vs wireless and Wi-Fi connectivity Ethernet setup 2. **Common Network connectivity Issues and Symptoms** • No internet, limited connectivity, IP conflicts • Slow or intermittent connections • Network configuration 3. **Network Configuration Basics** • IP address, subnet mask, default gateway, DNS • DHCP vs static IP 4. **Network Troubleshooting Tools and Commands** • ping, ipconfig, tracert, nslookup • Device Manager and network settings 5. **Network Security Essentials** • Firewall settings, Wi-Fi encryption (WPA2/WPA3) • MAC filtering and secure password practices
Job/ Task/ Activity	1.Check and resolve connectivity issues in a network using standard procedures

Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning **4.** Portfolio

Unit of Competency	**Perform Hardware Repair and Maintenance**
Unit Code	OU-ICT-LSM-03-L3-V1
Module Title	Performing Hardware Repair and Maintenance
Module Descriptor	This module covers the knowledge, skills and attitudes required for Performing Hardware Repair and Maintenance. The learning outcome of the module include disassemble and reassemble laptops, replace faulty components, perform hardware upgradation, maintain laptop externals and internals cleanliness
Nominal Hours	**60 Hours**
Learning Outcome	After completing the practice of the module, the trainees will be able to perform the following tasks: 1. Disassemble and Reassemble Laptops 2. Replace faulty components 3. Perform Hardware Upgradation 4. Maintain externals and internals cleanliness of laptop

Learning Outcome -1: Disassemble and Reassemble Laptops	
Assessment Criteria	1. Anatomy of laptops and functions of internal components are interpreted. 2. Personal protective equipment (PPE) is used during disassembling and reassembling. 3. Safety guidelines for handling electronic components are followed to prevent ESD damage. 4. Tools and equipment are selected and prepared for disassembly. 5. Laptops are disassembled according to manufacturer guidelines and safe condition. 6. External and Internal components are carefully handled to avoid damage maintaining safe handling procedures. 7. Laptops are reassembled following disassembly procedures.
Conditions and Resources	• Workplace or simulated workplace as training centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker • Diagonestic Software tools
Contents	1. **Laptop Anatomy and Internal Components**

	• Motherboard, CPU, RAM, HDD/SSD, battery, cooling system, display, ports 2. **Use of Personal Protective Equipment (PPE)** • ESD wrist strap, gloves, antistatic mat 3. **Safety and ESD Precautions** • Electrostatic discharge (ESD) risks and prevention • Safe handling and storage of components 4. **Tools and Their Functions** • Screwdrivers, spudgers, tweezers, plastic prying tools 5. **Disassembly and Reassembly Procedures** • Step-by-step guidelines from manufacturers • Labeling screws and parts, maintaining order 6. **Component Handling Techniques** • Avoiding pressure on sensitive parts • Proper alignment and connection during reassembly
Job/ Task/ Activity	1. Disassemble and reassemble laptops following manufacturer guidelines and safe handling procedure avoiding damage
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome -2: Replace faulty components	
Assessment Criteria	1. Faulty components are identified. 2. Replacement components are selected based on specifications. 3. Components are replaced using proper techniques and tools. 4. System functionality is tested after component replacement.

Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	1. **Identification of Faulty Components** • Common symptoms of hardware failure (e.g., RAM, HDD, power supply) • Diagnostic tools and visual inspection techniques 2. **Component Specifications and Compatibility** • Understanding part numbers, form factors, voltage ratings • Matching replacements with system requirements 3. **Safe Replacement Techniques** • Proper use of tools (screwdrivers, spudgers, antistatic gear) • Handling and installing components without causing damage 4. **Post-Replacement Testing and Verification** • Power-on self-test (POST), BIOS checks • Using diagnostic software to confirm functionality
Job/ Task/ Activity	1. Identify faulty components and replace components using proper tools and technique
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome-3:	**Perform Hardware Upgradation**
Assessment Criteria	1. Upgrade requirements are identified based on system performance. 2. Suitable upgrade components are selected. 3. Hardware upgradation are performed according to guidelines.

	4. Upgraded systems are tested for improved performance.
Conditions and Resources	• Workplace or Training Centre as simulated workplace • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and marker
Contents	1. **System Performance Indicators and Bottlenecks** • Signs of needed upgrades (slow boot, lag, full storage) • Tools for performance monitoring (Task Manager, Resource Monitor) 2. **Types of Hardware Upgrades** • RAM, storage (HDD to SSD), CPU, GPU, power supply 3. **Compatibility and Selection of Upgrade Components** • Form factor, interface types (e.g., DDR4, SATA, PCIe) • Checking motherboard and power requirements 4. **Upgrade Procedures and Safety Measures** • Step-by-step hardware installation guidelines • ESD precautions and tool usage 5. **Post-Upgrade Testing and Validation** • Benchmarking tools and system diagnostics • BIOS/UEFI recognition of new components
Job/ Task/ Activity	1. Determine upgradation requirements and perform hardware upgradation according to the guidelines.
Training Method	The following training methods might be selected by the trainer based on the overall context like the background of the learners, the nature of the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning 4. Portfolio
Learning Outcome-4:	**Maintain externals and internals cleanliness of laptop**

Assessment Criteria	1. External components are cleaned to remove dust and trash. 2. Internal components are cleaned to remove dust and trash. 3. Cooling systems are checked and cleaned. 4. Heat sinks and thermal paste are inspected and replaced if necessary. 5. Preventative maintenance schedules are followed. 6. Workspaces are kept clean and free from hazards to maintain safety standards.
Conditions and Resources	• Workplace or Simulated Workplace as Training Centre • Laptop and related components • Diagnostic tools and equipment • CBLM • Multimedia Projector • Paper, Pen, Pencil and Eraser • White Board and Marker
Contents	1. **Types of Dirt and Their Effects on Laptops** • Dust, debris, and their impact on performance and overheating 2. **Cleaning Tools and Materials** • Soft brushes, microfiber cloths, compressed air, isopropyl alcohol 3. **Cleaning Procedures for External and Internal Components** • Safe cleaning methods for keyboards, screens, ports, fans, and motherboards 4. **Cooling System Maintenance** • Cleaning fans and vants • Checking and replacing thrmal paste and heat sinks 5. **Preventive Maintenance Practices** • Scheduling regular cleaning • Keeping environment dust-free and monitoring ventilation 6. **Safe and Organized Work Environment** • ESD safety, tool organization, and hazard prevention
Job/ Task/ Activity	1. Check cooling systems, heat sinks and thermal paste for cleaning and replace external and internal parts and components of a ;aptop
Training Method	The following training methods should be selected by the trainer based on the overall context like the background of the learners, the nature of

	the contents, the availability of learning resources and the intended learning outcomes, but it is not limited or mandatory to these methods. 1. Lecture Method 2. Demonstration 3. Hands-on (Practical) 4. Group Discussion 5. Role Play 6. Case Study 7. E-learning 8. Simulation 9. Apprenticeship 10. On-the-Job Training 11. Workshop 12. Coaching & Mentoring
Assessment Method	1. Written Test 2. Demonstration 3. Oral questioning **4.** Portfolio

Competency based curriculum (CBC) and It's Principles

A Competency-Based Curriculum (CBC) refers to a structured framework of learning outcomes aligned with occupational standards that define the required skills, knowledge, and attitudes for specific job roles.

- A competency-based curriculum is a framework or guide for the subsequent detailed development of competencies, associated methodologies, training and assessment resources.

- The CBC specifies the outcomes which are consistent with the requirements of the workplace as agreed through the industry or community consultations.

- CBC can be developed immediately when competency standards exist.

The CBC always develop based on the corresponding CS which was design as per needs of the labour market.

CBT curricula are designed considering the following principles.

- Identification of competencies in consultation with experts from industries and training institutes
- Adopting 21st century pedagogy and methodology
- Training must be in line with labour market need and industrial standard
- Creating training modality to experience real working situation through platform such as OJT (On Job Training) and Industrial visit

When competency standards do not exist, curriculum developers need to clearly define the learning outcomes to be attained. The standard of performance required must be appropriate to industry and occupational needs through the industry/enterprise or specified client group consultations

CBC Validation Committee for Laptop Servicing and Maitenance Occupation

The Competency Based Curriculum for National Skills Certificate in Laptop servicing and Maintatenance, Level-03 is validated by NSDA on 16 June 2025.

List of Members

Sl No	Name, and Address	Position in the committee
1.	Birendra Nath Adhikary , CEO , ICT ISC	Chairperson
2.	Enrg. Md. Tarikul Islam , Technical Incharge, Excel Technologies Ltd.	Member
3.	Md. Taslim Ahmed , Mechanic , SPARRSO, Dhaka	Member
4.	Md. Mamunur Rashid Bhuiyan , Instructor(Computer) , Dhaka Polytechnic Institute	Member
5.	Mohammad Shamsul Alam , CEO , HSR IT Solutions, Motijheel C/A, Dhaka-1000	Member
6.	Shihab Hossain Shauto , Service Engineer, PC DOT TECH, Motijheel C/A, Dhaka-1000	Member
7.	Md. Salahuddin , Instructor (Electronic) , BGTTC, Mirpur, Dhaka	Member
8.	Md. Giush Uddin, Chief Engineer, New Tech IT Training Centre, Dhaka.	Member
9.	Md. Jamal Uddin , Propritor, laptop Services, Dhaka	Member