

	Company Name: Ejensii Mirkaneessa Gahumsa Ogummaa Oromiyaa የኦሮሚያ የሙያ ብቃት ማረጋገጫ ኤጀንሲ Oromia Occupational Competency Assurance Agency		Document No.: SC/OCOC/013	
	Mata-duree/Title: Sadarkaa Ogummaa Ogummaa Hardware and Network Servicing Level-III Hardware and Network Servicing Level-III Certification Scheme		Issue No. 2	Page No. Page 1 of 4

ISSUE HISTORY				
Issue	Description of Change	Status	Originator	Effective Date
1				
2				

REFERENCE DOCUMENTS	
Document Number	Document Title
EX/OOCOA/001	ES ISO/IEC 17024:2013 Conformity assessment - General requirements for bodies operating certification of persons.
EX/OOCOA/002	ES ISO/IEC 17000:2020, Conformity assessment — Vocabulary and general principles
EX/OOCOA/006	Federal Democratic Republic of Ethiopia Occupational Standard Hardware and Network Servicing NTQF Level - IV

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1. Barbaachisummaa/Purpose

The purpose of this certification scheme is to establish a standardized framework for verifying the competence of individuals seeking certification as Hardware and Networking Support Professionals (Level III). This scheme ensures that successful candidates possess the specific technical, operational, and diagnostic capabilities required to manage mid-sized IT infrastructures, deploy network resources, and provide critical technical support within an organization.

2. Daangaa/Scope

This scheme governs the assessment, eligibility, and certification processes for Level III technicians. The scope covers technical competencies across seven primary domains, with specific emphasis on physical and logical network deployment, client-server configuration, proactive security monitoring, hardware/software troubleshooting, remote user support, and structured documentation compliance.

3. Jechootaa fi Hiikkaawwan/Terms and Definitions

3.1. Hiika Jechootaa/Terms and Definitions

-Assessment: is the process of gathering, evaluating, and interpreting information to determine a person's knowledge, skills, abilities, or performance in a specific area.

-Assessor: An Assessor is a person who evaluates or judges someone's skills, knowledge, or performance against set standards or criteria.

-Competence is the ability to perform a task or role effectively, combining the necessary knowledge, skills, and attitudes to achieve the required standard.

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-Certification Scheme: A Certification Scheme is a structured system or program that sets standards, assesses competence, and awards formal recognition (certification) to individuals who meet those standards.

3.2. Gabaajeewwan/Abbreviations

OS	Occupational Standard
OOCAA	Oromia occupational Competence Assurance Agency
KSA	Knowledge, Skill, and Attitude
JTA	Job Task Analysis
CPL	Certified Person List
CR	Competence Requirement
WHS	Workplace Health and Safety
UC	Unit of Competency
TVET	Technical & Vocational Education Training
OHS	Occupational Health and Safety
DHCP	dynamic host configuration protocol
UTP	Unshielded twisted pair
STP	Shielded twisted pair or optic fiber
MIB	Management information base

4. Xiinxala Hojii fi Dalagaa/JOB TASK ANALYSIS (JTA)

The Job Task Analysis (JTA) provides a systematic breakdown of the essential tasks and responsibilities performed by a Level IV certified Hardware and Networking Service.

The Level III certification evaluates performance across these seven standardized occupational tasks:

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1. **Determine Best-Fit Topology:** Assess organizational layouts, cost boundaries, physical distances, and data-flow requirements to design and implement optimized physical and logical network architectures.
2. **Install and Manage Network Protocols:** Implement, bind, and configure data transmission protocols (TCP/IP suite, routing protocols, and addressing services like DHCP and DNS) across host systems and network devices.
3. **Configure and Administer Server:** Install server operating systems, configure storage partitions, establish user/group structures, allocate resource access permissions, and ensure baseline server availability.
4. **Monitor and Administer System and Network Security:** Enforce access control lists (ACLs), deploy software firewalls, run antivirus updates, monitor system logs for anomalies, and perform patch management routines.
5. **Identify and Resolve Network Problems:** Systematically trace connectivity faults using physical hardware tools (cable testers) and software diagnostic utilities to restore standard operations.
6. **Provide First Level Remote Help Desk Support:** Answer incoming support requests remotely, apply troubleshooting scripts, use remote desktop software to fix local station issues, and log progress inside an incident tracking system.
7. **Create Technical Documentation:** Formulate clear network diagrams, keep records of hardware asset logs, write user manuals, and update incident tracking documents.

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5. COMPETENCE REQUIREMENTS

This section defines the **competence framework** for Level III Hardware & Network Servicing, describing the **knowledge, skills, and attitudes** required to perform Hardware & Network Servicing tasks safely, efficiently, and in compliance with industry standards.

5.1 Knowledge (K)

The knowledge component defines what the candidate **must understand and be able to recall** to perform Hardware & Network Servicing tasks effectively. It forms the theoretical foundation for skills and safe practice.

Code	Description	Detailed Explanation
K1	Determine Best-Fit Topology	Candidate must demonstrates knowledge of: - current industry-accepted hardware and software products, including knowledge of general features and capabilities - system's current functionality - characteristics and relative strengths and weaknesses of LAN network topologies, TCP/IP, Ethernet, hubs, adaptor cards - basic knowledge of cabling, particularly UTP (unshielded twisted pair), STP (shielded twisted pair) or optic fiber - network architecture
K2	Install and Manage Network Protocols	Candidate must demonstrates knowledge of: - client business domain, including client organization structure and business functionality - current communications technologies and their associated protocols - current industry-accepted hardware and software products and general features and capabilities - network protocols currently in use in organization and industry - vendor product range and development directions.
K3	Configure and Administer Server	Candidate must demonstrates knowledge of:

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		• Single and multiple processors, memory, Disk drives and internal/external storage devices. • Server applications (such as web application, DNS, etc.) • Server specification for different applications
K4	Monitor and Administer System and Network Security	Candidate must Demonstrates knowledge of: • client business domain, business function and organization • features and capabilities of networking technologies, with substantial depth in security areas • network and system security
K5	Identify and Resolve Network Problems	Candidate must demonstrates knowledge of: • current industry-accepted hardware and software products, with knowledge of general features and capabilities • networking technologies (e.g., TCP/IP, OSI protocol stacks) with knowledge of features and capabilities, and substantial depth in protocols such as Ethernet, AppleTalk, Novell, Linux or UNIX protocols • network management tools, with knowledge of general features and capabilities, with substantial depth in troubleshooting areas
K6	Provide First Level Remote Help Desk Support	Candidates must demonstrates knowledge of: • Operating systems supported by the organization • Advanced features and functions of software • Information sources • Contract and service agreements with vendors • Operating systems functions and basic features • Hardware and software supported by the organization • Features of different types of hardware • Security and network guidelines and procedures • Available in-house and vendor support
K7	Create Technical Documentation	Candidates must demonstrates knowledge of: • content features, such as clarity and readability • instructional design principles • functions and features of templates and style guides • document design, web design and usability

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		- the use of word processing software and multimedia authoring tools - identifying target audiences - analyzing audience needs - identifying relevant content - determining appropriate content, formats and styles - writing content
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5.2 Skills (S)

Skills define the **practical abilities** required to carry out plumbing tasks. Each skill is associated with **performance criteria** to assess whether the candidate can perform tasks correctly in a real-world setting.

Code	Description	Performance Criteria	Detailed Explanation
S1	Determine Best-Fit Topology		Demonstrates - determine user needs - gather data and information - develop best topology for the organization by analyzing user requirements
S2	Install and Manage Network Protocols		Candidate must Demonstrates skills to: - communication skills to evaluate client user requirements and map to appropriate protocols - learning skills to ensure currency with protocols development - literacy skills to interpret technical manuals - organisational skills to plan, prioritise and organise work - problem-solving skills to develop and refine configuration protocols - technical skills to:

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			• configure workstations • develop strategic initiatives when designing a network addressing system • test components using available technology • write detailed technical notes.
S3	Configure and Administer Server		Candidate must Demonstrates skills to: • determine server specifications • determine compatibility and operability • configured a server as required by technical requirements
S4	Monitor and Administer System and Network Security		Demonstrates skills to: ▪ secure file and resource accessdetermine authentication requirements and network security
S5			Candidate must demonstrates skills to: • perform regular monitoring • solve network related problems • perform maintenance support
6	Provide First Level Remote Help Desk Support		● Successful pressure and functional tests
7	Create Technical Documentation		Candidate must demonstrates skills to: • design documentation • develop documentation • evaluate and edit documentation

5.3 Attitudes (A)

Attitudes define the **professional behaviors and mindset** required to ensure safety, reliability, and quality in plumbing work. They are critical for both workplace effectiveness and certification validity.

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Code	Description	Observable Behavior	Detailed Explanation
A1	Safety awareness	Always uses PPE, follows safety procedures	Candidate demonstrates a proactive approach to safety, preventing accidents, injuries, and damage during plumbing operations.
A2	Quality focus	Ensures precise measurements and alignment	Candidate consistently performs work accurately, maintains high standards, and ensures durable, leak-free installations.
A3	Responsibility	Follows procedures and meets deadlines	Candidate takes ownership of tasks, adheres to work plans, and ensures timely completion without compromising safety or quality.
A4	Environmental awareness	Minimizes waste and follows regulations	Candidate demonstrates responsible handling of materials and compliance with environmental guidelines to reduce waste and contamination.
A5	Professionalism	Communicates effectively with colleagues and clients	Candidate maintains professional behavior, clear communication, and ethical conduct while working with team members and clients.

6. ELIGIBILITY REQUIREMENTS

To ensure that candidates possess the foundational knowledge, practical experience, and physical capability to perform Hardware & Network Servicing safely and effectively, the following eligibility criteria apply:

Requirement	Criteria	Description / Rationale
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Education	TVET Level II Hardware & Network Servicing or equivalent	Candidates must have completed a recognized vocational or technical training program in Hardware & Network Servicing or an equivalent qualification, ensuring a basic understanding of Hardware & Network Servicing principles and practices.
Experience	Minimum 2 years Recognition of Prior Learning (RPL)	Candidates must have at least two years of practical work experience in plumbing to demonstrate exposure to real workplace tasks and develop proficiency in standard Hardware & Network Servicing.
Training	Recognized training program OR Recognition of Prior Learning (RPL)	Candidates should have undergone formal training recognized by industry or regulatory bodies, or provide documented evidence of prior learning and workplace competence that meets the Level III Hardware & Network Servicing standards.
Health	Physically fit	Candidates must be physically capable of performing Hardware & Network Servicing tasks, including lifting, working in confined spaces, and handling tools safely, to prevent accidents and ensure safe work practices.

7. ASSESSMENT SYSTEM

The assessment system is designed to evaluate the **competence of candidates** based on the defined knowledge, skills, and attitudes necessary to perform Hardware & Network Servicing (Level-III) tasks safely, effectively, and in accordance with industry standards.

7.1 Practical Assessment

Practical assessment is a part of assessment that used to measure the skill of a candidate in an occupation based on the given occupational standard to award in the world of work. Practical assessment of Hardware & Network Servicing level -III shall be developed by comprise all the demonstrable UCs found in Hardware & Network Servicing from **level I-II**

7.2 Knowledge Assessment

It is part of assessment that used to measure the knowledge of candidates in one occupation based on the given occupational standard. The knowledge assessment for Hardware & Network Servicing level IV shall include all **Level I up to level III** knowledge questions. It

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will be developed from **Level III thirty (30)**, from **Level II five (10)** and from **Level I five (10)** questions will be taken. Totally it is **Fifty (50)** knowledge questions for **level III**.

7.3 Passing Criteria

Knowledge assessment tool has been developed in the form of written or **oral question**. For Hardware & Network Servicing from **level III 50 multiple choice** question where developed and the passing rate shall be **at least 28 points or (55%) and** above. For practical Assessment the passing rate should be the candidate should perform all given projects and tasks according to given Industry standard.

8. Assessment Methods

Assessment methods for Hardware & Network Servicing Level IV should be designed to evaluate knowledge, practical skills, and attitudes. Common assessment methods include:

- **Written Examination**
Used to assess theoretical knowledge, technical principles, fault diagnosis procedures, safety requirements, and workshop management concepts.
- **Oral Interview**
Used to assess communication skills, understanding of technical procedures, problem-solving ability, and decision-making.
- **Practical Demonstration**
Used to assess the candidate's ability to diagnose faults, repair systems, use tools, and perform Hardware and Network maintenance tasks.
- **Direct Observation**
Used to observe the candidate performing work tasks in an actual workplace or simulated workshop environment.
- **Workplace Assessment**
Used to assess performance under normal working conditions using Hardware & Networking, tools, and customer service situations.
- **Simulation Exercise**
Used when real workplace assessment is not possible. Candidates perform tasks in a controlled environment using simulated faults or equipment.

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- **Case Study**

Used to assess the candidate's ability to analyze Hardware & Networking system problems, identify causes, and recommend solutions.

The assessment process should combine more than one method to ensure that competence is measured accurately and fairly.

9. Certification Process

9.1 Initial certification criteria

All Initial certification criteria shall be applied accordance with the Assessment Procedure documented in **OP/OCAPD/004**

9.2 Recertification requirement

Individuals can request rectification if;

- ❖ Occupational Standard (OS) is changed by Industry
- ❖ When the candidate was NOT YET COMPETENT on initial certification assessment
- ❖ After 3 year If occupational standard does not changed the individual has the right to renew the certificate.

9.3 Suspension and Withdrawal

All Suspension and Withdrawal shall be applied accordance with Policy of Suspension, Withdrawal and Reduction of Scope documented in **PL/OOCOA/007**

9.4 Appeals and Complaints References

All Appeals and Complaints shall be applied according to appeals and complaints Procedure **OP/OOCOA/008**

1. Record keeping and Confidentiality

Record keeping and confidentiality requirements should ensure that all candidate information, assessment records, and certification decisions are securely maintained and protected from unauthorized access. In order to keep the all record and confidentiality of Individuals **Record keeping and Confidentiality PL/OOCOA/005** policy will be applied accordingly.

2. Scheme integrity and security

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Scheme Development: This scheme was reviewed and validated by a committee of Subject Matter Experts (SMEs) to ensure it remains fair and valid for the industry.

Assessor Requirements: Assessors must be independent of the candidate's training process to prevent conflicts of interest (**as per ISO/IEC 17024:2012, Clause 7**).

Assessment Security: "All assessment materials, including written examination banks and practical scoring rubrics, are secured and managed in strict accordance with the **Security Policy (PL/OOCOA/002)**."

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