Model Curriculum

QP Name: Wireless Technician

QP Code: TEL/Q4105

Version: 4.0

NSQF Level: 4.0

Model Curriculum Version: 4.0

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Table of Contents

Contents

Training Parameters 3

Program Overview 4

Training Outcomes 4

Compulsory Modules 4

Module 1: Introduction to the sector and the job role of a Wireless Technician 6

Module 2: Installation and Wiring of Wireless Communication Equipment 8

Module 3: Configuring Equipment and Establishing Wireless Network Connectivity 11

Module 4: Diagnosing and Rectifying Wireless Network Faults 13

Module 5: Installing, Testing, and Maintaining UPS and Domestic Power Supply 15

Module 6: Sustainability Practices in Telecom Infrastructure Installation 17

Module 7: Employability Skills (60 Hours) 19

Module 8: On-the-Job Training 21

Annexure 22

Trainer Requirements 22

Assessor Requirements 23

Assessment Strategy 24

References 26

Glossary 26

Acronyms and Abbreviations 27

Training Parameters

Sector	**Telecom**
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
Country	India
NSQF Level	4.0
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.0802
Minimum Educational Qualification and Experience	12th grade Pass OR Completed 2nd year of the 3-year diploma after 10th in Electronics Engineering/ Telecommunication Engineering/ Wireless and Mobile Communication/ Networking and Communication Systems OR 10th Grade Pass with 3-year of experience in the operations and maintenance of passive infrastructure OR Previous relevant Qualification of NSQF Level 3.0 with 3 years of experience in the operations and maintenance of passive infrastructure OR Previous relevant Qualification of NSQF Level 3.5 with 1.5 years of experience in the operations and maintenance of passive infrastructure
Pre-Requisite License or Training	NA
Minimum Job Entry Age	NA
Last Reviewed On	08-05-2025
Next Review Date	30-04-2028
NSQC Approval Date	08-05-2025
QP Version	4.0
Model Curriculum Creation Date	12-03-2025
Model Curriculum Valid Up to Date	30-04-2028
Model Curriculum Version	4.0
Minimum Duration of the Course	510 Hours

Maximum Duration of the Course	510 Hours

Program Overview

This section summarises the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Explain how to carry out installation and wiring of wireless communication equipment.
- Describe how to configure equipment and establish wireless network connectivity.
- Determine how to diagnose and rectify wireless network faults.
- Discuss how to install, test, and maintain UPS and domestic power supply.
- Elucidate how to follow sustainable practices in telecom infrastructure installation.
- Discuss the Employability and Entrepreneurship Skills.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration (Hours)	Practical Duration (Hours)	On-the-Job Training Duration (Mandatory) (Hours)	On-the-Job Training Duration (Recommended) (Hours)	Total Duration (Hours)
TEL/N4122: Carry out installation and wiring of wireless communication equipment **NOS Version No.: 5.0** **NSQF Level: 4.0**	**25:00**	**35:00**	**60:00**	**00:00**	**120:00**
Module 1: Introduction to the sector and the job role of a Wireless Technician	05:00	00:00	00:00	00:00	05:00
Module 2: Installation and Wiring of Wireless Communication Equipment	20:00	35:00	60:00	00:00	115:00
TEL/N4123: Configure equipment and establish wireless network connectivity **NOS Version No.: 5.0** **NSQF Level: 4.0**	**25:00**	**65:00**	**30:00**	**00:00**	**120:00**
Module 3: Configuring Equipment and Establishing Wireless Network Connectivity	25:00	65:00	30:00	00:00	120:00

TEL/N4124: Diagnose and rectify wireless network faults **NOS Version No.: 5.0** **NSQF Level: 4.0**	**30:00**	**30:00**	**30:00**	**00:00**	**90:00**
Module 4: Diagnosing and Rectifying Wireless Network Faults	30:00	30:00	30:00	00:00	90:00
TEL/N4125: Install, test, and maintain UPS and domestic power supply **NOS Version No.: 5.0** **NSQF Level: 4.0**	**30:00**	**30:00**	**30:00**	**00:00**	**90:00**
Module 5: Installing, Testing, and Maintaining UPS and Domestic Power Supply	30:00	30:00	30:00	00:00	90:00
TEL/N9105: Follow sustainable practices in telecom infrastructure installation **NOS Version No.: 1.0** **NSQF Level: 4.0**	**10:00**	**20:00**	**00:00**	**00:00**	**30:00**
Module 6: Sustainability Practices in Telecom Infrastructure Installation	10:00	20:00	00:00	00:00	30:00
DGT/VSQ/N0102: Employability Skills (60 Hours) **NOS Version No.: 1.0** **NSQF Level: 4.0**	**60:00**	**00:00**	**00:00**	**00:00**	**60:00**
Module 7: Employability Skills (60 Hours)	60:00	00:00	00:00	00:00	60:00
Total Duration	**180:00**	**180:00**	**150:00**	**00:00**	**510:00**

Module Details

Module 1: Introduction to the sector and the job role of a Wireless Technician

Mapped to TEL/N4122, v5.0

Terminal Outcomes:

- Explain the importance of Telecom Sector.
- Discuss the roles and responsibilities of a Wireless Technician.

Duration (in hours): 05:00	**Duration (in hours): 00:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the Wireless Technician's responsibilities in deploying, maintaining, and troubleshooting wireless communication equipment. • Describe the key components of wireless network infrastructure, including antennas, access points, and backhaul equipment. • Identify different wireless technologies used in broadband connectivity, such as Wi-Fi, 5GHz backhaul, and fixed wireless access (FWA). • Elucidate the importance of wireless network performance metrics, such as signal strength, throughput, and interference, in service quality. • Explain the importance of communication skills in assisting with wireless equipment configuration, troubleshooting, and resolving connectivity issues. • Discuss safety protocols, grounding techniques, and PPE required for wireless equipment installation and maintenance tasks, including working at heights. • Describe the career advancement opportunities available for a Wireless Technician in the telecommunications industry.	
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	

Nil

Module 2: Installation and Wiring of Wireless Communication Equipment

Mapped to TEL/N4122, v5.0

Terminal Outcomes:

- Describe the procedures for preparing, wiring, and installing a wireless communication system.
- Explain the methods for conducting quality checks and performance testing on installed wireless equipment.
- Discuss the steps involved in completing documentation and site cleanup after a wireless network installation.

Duration (in hours): 20:00	Duration (in hours): 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe industry standards, policies, and best practices for wireless equipment installation and structured cabling. • Explain different cable types and their respective connectors. • Discuss safety procedures for working at heights, handling electrical installations, and preventing hazards. • Describe structured cabling guidelines, including PoP setup, cable routing, and cable management techniques. • Determine methods of obtaining and handling installation materials, tools, and equipment at various sites. • Explain transmission loss testing methods, power level verification, and troubleshooting techniques. • Discuss basic Wi-Fi network principles, including signal propagation, interference, and coverage optimization. • Describe firmware updates, basic configurations, and network connectivity checks for wireless devices. • Explain documentation processes, including technical reports, installation logs, and compliance records. • Describe customer handling protocols, payment procedures, and conflict resolution strategies.	• Demonstrate how to review and interpret installation plans, site layouts, and job specifications. • Show how to coordinate with superiors and site personnel to confirm job requirements and site access. • Demonstrate how to select and collect appropriate tools, equipment, and materials as per installation plans. • Show how to identify and use suitable cables and connectors based on site requirements. • Demonstrate how to measure and verify cable lengths, ensuring continuity and optimal performance. • Show how to inspect cable routes for electrical hazards, environmental constraints, and obstructions. • Demonstrate how to liaise with local authorities and comply with regulatory requirements for outdoor installations. • Show how to determine optimal installation locations adhering to structured cabling norms and signal coverage guidelines. • Demonstrate how to ensure systematic and organized wiring from Point of Presence (PoP) to designated sites. • Show how to secure and route cables neatly using appropriate clips, trays, and conduits.

	• Demonstrate how to install, terminate, and test feeder cables and connectors, ensuring minimal transmission loss. • Show how to mount equipment securely following manufacturer guidelines and electrical safety standards. • Demonstrate how to implement proper grounding and earthing techniques for system safety and reliability. • Show how to conduct initial equipment setup, firmware updates, and basic configuration as required. • Demonstrate how to test cable connectivity, transmission loss, and signal strength using appropriate testing tools. • Show how to re-terminate cables if the transmission loss exceeds prescribed limits. • Demonstrate how to verify power supply, grounding, and voltage levels to prevent equipment damage. • Show how to configure and test Wi-Fi backhaul and access point connectivity for seamless operation. • Demonstrate how to troubleshoot and rectify basic connectivity issues and escalate unresolved issues. • Show how to dispose of installation waste materials as per environmental and workplace safety guidelines. • Demonstrate how to restore the site to its original or improved condition, ensuring customer satisfaction. • Show how to maintain accurate records of installation, testing results, and equipment details. • Demonstrate how to complete all required installation documents and reports in the prescribed format. • Show how to collect customer acknowledgment and necessary payments, if applicable.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	

Tools, Equipment and Other Requirements
WiFi Backhaul Equipment (5 GHz), WiFi Antenna (2.4 GHz), WiFi Access Point (2.4 GHz), Switches, Router with Power Adaptor, Packet Tracer Software, Internet/Broadband Connectivity, Hand Tool Kit, Ethernet Tester, Connectors (RJ-45 & RJ-11), LAN Ethernet Straight Cable, LAN Ethernet Cross Cable, UTP, STP, Twisted Cables, VSWR Equipment

Module 3: Configuring Equipment and Establishing Wireless Network Connectivity

Mapped to TEL/N4123, v5.0

Terminal Outcomes:

- Describe the process of configuring wireless network equipment.
- Explain the steps involved in establishing and verifying wireless network connectivity.
- Determine the methods for recording configuration settings and test results for wireless network deployments.

Duration (in hours): 25:00	Duration (in hours): 65:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the fundamental concepts of wireless networking, including IEEE 802.11 standards, frequency bands, and channel interference. • Explain network topologies, broadband network elements, gateways, TCP/IP, DHCP, and subnetting. • Discuss key performance parameters such as signal strength, VSWR, return loss, and link budget calculations. • Describe industry best practices for securing wireless networks, including encryption standards, firewall configurations, and intrusion prevention measures. • Determine tools and software used for configuring, testing, and monitoring network performance. • Explain standard troubleshooting methodologies for network failures, slow speeds, and intermittent connectivity issues. • Discuss basic electrical safety measures and first aid procedures for handling installation-related hazards. • Describe guidelines for proper cable management, grounding techniques, and protection against environmental damage. • Explain best practices for maintaining customer satisfaction, including clear communication of service expectations and troubleshooting guidance.	• Demonstrate how to install and securely mount Wi-Fi backhaul equipment and access points as per site specifications. • Show how to connect feeder cables with antennas and measure VSWR/return loss to ensure optimal signal transmission. • Demonstrate how to align antennas based on surveyed signal strength and adjust orientation for optimal connectivity. • Show how to establish physical connections between Wi-Fi backhaul equipment, Wi-Fi access points, and network switches. • Demonstrate how to configure equipment settings, including IP addresses, subnet masks, and default gateways, according to base configurations. • Show how to access network settings using default login credentials and update them with secure passwords. • Demonstrate how to apply encryption and authentication settings (WPA2/WPA3) to secure network access. • Show how to update firmware and software patches to ensure compliance with industry standards and security best practices. • Demonstrate how to ensure all cables and connectors are properly secured and free from damage. • Show how to conduct a ping test to the service provider gateway and analyze latency, packet loss, and jitter parameters.

• Elucidate the importance of firmware updates and software patches in maintaining network security and reliability.	• Demonstrate how to validate throughput performance using network testing tools and document results. • Show how to configure end-user devices with appropriate SSIDs, security credentials, and DNS settings. • Demonstrate how to verify end-user connectivity by executing network diagnostic commands and troubleshooting connectivity issues. • Show how to perform a security compliance check by testing firewall settings, encryption status, and unauthorized access points. • Demonstrate how to maintain accurate records of network configurations, including IP assignments, security protocols, and firmware versions. • Show how to document testing procedures, expected results, and any deviations observed during connectivity tests. • Demonstrate how to create a troubleshooting log with identified issues, root causes, and corrective actions taken. • Show how to educate customers on basic troubleshooting techniques and network optimization tips.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
WiFi Backhaul Equipment (5 GHz), WiFi Antenna (2.4 GHz), WiFi Access Point (2.4 GHz), Switches, Router with Power Adaptor, Packet Tracer Software, Internet/Broadband Connectivity, Hand Tool Kit, Ethernet Tester, Connectors (RJ-45 & RJ-11), LAN Ethernet Straight Cable, LAN Ethernet Cross Cable, UTP, STP, Twisted Cables, VSWR Equipment	

Module 4: Diagnosing and Rectifying Wireless Network Faults

Mapped to TEL/N6105, v2.0

Terminal Outcomes:

- Determine the methods used to diagnose and rectify wiring faults in wireless networks.
- Explain the process of troubleshooting and repairing Wi-Fi backhaul equipment operating at 5 GHz.
- Describe the procedures for troubleshooting and restoring Wi-Fi access points operating at 2.4 GHz.
- Discuss the steps involved in carrying out documentation and restoring the worksite after wireless network fault rectification.

Duration (in hours): 30:00	Duration (in hours): 30:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the types, specifications, and limitations of network cables, connectors, and feeder cables. • Explain industry standards and best practices for cable crimping, soldering, and termination. • Discuss the functionality and usage of test equipment such as network testers, spectrum analyzers, and cable testers. • Determine the impact of Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) on network performance. • Describe standard commands and procedures for configuring and troubleshooting wireless networking equipment. • Explain the parameters affecting signal quality, including interference sources and signal attenuation. • Discuss safety procedures for handling electrical equipment, including grounding and surge protection. • Describe risk assessment techniques and incident response protocols for network failures. • Explain escalation processes for unresolved faults and emergency incidents, such as power failures and system crashes.	• Demonstrate how to conduct continuity tests using appropriate tools and localize fault distance. • Show how to perform re-connectorization/crimping of cable pairs with connectors or replace faulty cables. • Demonstrate how to replace feeder cables or antennas as per network specifications. • Show how to conduct signal and interference tests to validate cable performance. • Demonstrate how to reconfigure network devices, if necessary, after cable replacement. • Show how to interpret status and error indicators on the Wi-Fi backhaul equipment. • Demonstrate how to connect and operate a handheld network tester for fault diagnosis. • Show how to use cable and antenna testers to check connectivity and performance. • Demonstrate how to verify and adjust antenna alignment for optimal signal strength. • Show how to analyze diagnostic results to localize and rectify faults in backhaul connectivity. • Demonstrate how to perform firmware updates and configuration resets, if required.

• Elucidate environmental and safety regulations for disposal of electronic and networking waste.	• Show how to identify status and diagnostic indicators on Wi-Fi access points. • Demonstrate how to connect and utilize network testing tools for fault detection. • Show how to interpret output from troubleshooting equipment and software diagnostics. • Demonstrate how to access Wi-Fi access point settings through a browser or application to perform configuration checks. • Show how to reset, update, or replace malfunctioning Wi-Fi access points based on diagnostic findings. • Demonstrate how to record troubleshooting steps and localized faults in logs or digital records. • Show how to document all modifications and replacements undertaken during fault rectification. • Demonstrate how to restore any worksite changes made during fault repair to meet client and workplace standards. • Show how to dispose of damaged components and materials following environmental and safety guidelines.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
WiFi Backhaul Equipment (5 GHz), WiFi Antenna (2.4 GHz), WiFi Access Point (2.4 GHz), Switches, Router with Power Adaptor, Packet Tracer Software, Internet/Broadband Connectivity, Hand Tool Kit, Ethernet Tester, Connectors (RJ-45 & RJ-11), LAN Ethernet Straight Cable, LAN Ethernet Cross Cable, UTP, STP, Twisted Cables, VSWR Equipment	

Module 5: Installing, Testing, and Maintaining UPS and Domestic Power Supply

Mapped to TEL/N6105, v2.0

Terminal Outcomes:

- Describe the procedures for installing a UPS system and checking electrical parameters.
- Explain how to conduct power supply checks and ensure compliance with relevant standards.
- Determine the steps involved in performing preventive maintenance and troubleshooting UPS systems.

Duration (in hours): 30:00	Duration (in hours): 30:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe standard voltage and current norms for domestic and small commercial power supply systems. • Explain guidelines for checking earthing, insulation resistance, and power continuity. • Discuss types of UPS systems (Offline, Line-interactive, Online) and their applications. • Describe UPS installation best practices, including wiring standards and safety protocols. • Determine UPS power ratings, load calculations, and capacity planning. • Explain the functioning and use of test equipment (multimeters, clamp meters, insulation testers). • Discuss types of batteries used in UPS, battery management practices, and charge cycles. • Describe common faults in UPS and troubleshooting methods. • Elucidate safety regulations, electrical codes, and protective measures for handling power systems. • Explain documentation and reporting procedures for installation, testing, and maintenance activities.	• Demonstrate how to inspect and verify power supply connections for voltage, current, earthing, and continuity. • Show how to identify appropriate UPS type and capacity based on the equipment load and power requirements. • Demonstrate how to plan installation activities, ensuring adherence to manufacturer guidelines and safety protocols. • Show how to read and interpret wiring diagrams and circuit layouts to ensure correct installation. • Demonstrate how to install and securely mount UPS as per the specified standards. • Show how to route and connect power supply through UPS, ensuring proper input and output wiring. • Demonstrate how to check for polarity and phase alignment to avoid incorrect wiring. • Show how to verify the proper grounding of the UPS and connected equipment. • Demonstrate how to use multimeters and clamp meters to measure and validate voltage, current, and earthing resistance. • Show how to test power backup functionality by simulating a power failure scenario. • Demonstrate how to ensure the UPS output matches the required power quality standards.

	• Show how to identify and report fluctuations or irregularities in power supply that may affect equipment performance. • Demonstrate how to apply safety precautions while handling high-voltage connections and power tools. • Show how to inspect and test UPS batteries for charge retention and health status. • Demonstrate how to replace faulty or degraded batteries following standard replacement procedures. • Show how to clean and secure UPS ventilation to prevent overheating. • Demonstrate how to diagnose and troubleshoot common UPS faults such as overloading, short circuits, and failed inverters. • Show how to document test results, maintenance actions, and reported issues as per standard procedures. • Demonstrate how to communicate findings and recommendations to customers or supervisors.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
WiFi Backhaul Equipment (5 GHz), WiFi Antenna (2.4 GHz), WiFi Access Point (2.4 GHz), Switches, Router with Power Adaptor, Packet Tracer Software, Internet/Broadband Connectivity, Hand Tool Kit, Ethernet Tester, Connectors (RJ-45 & RJ-11), LAN Ethernet Straight Cable, LAN Ethernet Cross Cable, UTP, STP, Twisted Cables, VSWR Equipment	

Module 6: Sustainability Practices in Telecom Infrastructure Installation

Mapped to TEL/N9105, v1.0

Terminal Outcomes:

- Explain sustainable practices in telecom infrastructure installation, including waste management and energy efficiency.
- Discuss compliance with environmental regulations and the importance of maintaining records of sustainability measures.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain national and international environmental laws and regulations governing telecom infrastructure installation. • Describe e-waste management and recycling policies applicable to telecom sites. • Identify occupational safety and health standards related to environmental practices. • List recyclable and refurbishable telecom components and their proper handling techniques. • Define methods for reducing electronic waste through responsible procurement and reuse. • Explain advancements in eco-friendly telecom infrastructure and the use of renewable energy sources. • Elucidate techniques for optimizing energy consumption in telecom operations. • Describe proper disposal methods for hazardous and non-hazardous waste. • Explain procedures for collaborating with authorized agencies for waste collection and disposal. • Identify best practices for reducing the carbon footprint of telecom installations.	• Show how to identify telecom components suitable for recycling or refurbishment. • Demonstrate the process of sorting electronic and non-electronic waste according to disposal protocols. • Show the correct labeling and storage of recyclable and refurbishable components. • Demonstrate the safe handling and disposal of hazardous and non-hazardous waste. • Show the proper coordination process with authorized e-waste recycling units or disposal agencies. • Demonstrate the use of energy-efficient tools and equipment during telecom installations. • Show how to optimize infrastructure placement to minimize energy consumption. • Demonstrate the maintenance of records for waste disposal and sustainability measures. • Show how to guide team members on sustainable practices and encourage environmentally responsible habits.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	

Tools, Equipment and Other Requirements
Protective gloves, safety goggles, e-waste segregation bins, labels and markers, digital multimeter, circuit testers

Module 7: Employability Skills (60 Hours)

Mapped to DGT/VSQ/N0102, v1.0

Duration (in hours): 60:00

Key Learning Outcomes

After completing this programme, participants will be able to:

Introduction to Employability Skills Duration: 1.5 Hours

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

5. Discuss the importance of relevant 21st-century skills.
6. Exhibit 21st-century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service

18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Module 8: On-the-Job Training

Mapped to Wireless Technician

Mandatory Duration: 150:00	Recommended Duration: 00:00
Location: On-Site	

Terminal Outcomes

- Demonstrate how to prepare, wire, and install a wireless communication system.
- Show how to conduct quality checks and performance testing on installed wireless equipment.
- Demonstrate how to complete documentation and perform site cleanup after a wireless network installation.
- Show how to configure wireless network equipment.
- Demonstrate how to establish and verify wireless network connectivity.
- Show how to record configuration settings and test results for wireless network deployments.
- Demonstrate how to diagnose and rectify wiring faults in wireless networks.
- Show how to troubleshoot and repair Wi-Fi backhaul equipment operating at 5 GHz.
- Demonstrate how to troubleshoot and restore Wi-Fi access points operating at 2.4 GHz.
- Show how to document and restore the worksite after wireless network fault rectification.
- Demonstrate how to install a UPS system and check electrical parameters.
- Show how to conduct power supply checks and ensure compliance with relevant standards.
- Demonstrate how to perform preventive maintenance and troubleshoot UPS systems.
- Show how to apply sustainable practices in telecom infrastructure installation, including waste management and energy efficiency.
- Demonstrate how to comply with environmental regulations and maintain records of sustainability measures.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialisation**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	Electronics and Communication /Telecom/ Information Technology/ Computer Science and other relevant fields	6	Optical Fiber/ Broadband Domain			

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Wireless Technician" mapped to QP: "TEL/Q4105, v3.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v3.0". The minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	Electronics and Communication /Telecom/ Information Technology/ Computer Science and other relevant fields	6	Optical Fiber/ Broadband Domain			

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Wireless Technician" mapped to QP: "TEL/Q4105, v3.0". Minimum accepted score is 80%.	Certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v3.0", with a minimum score of 80%.

Assessment Strategy

1. **Assessment System Overview:**
    - Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email
    - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
    - Assessment agency deploys the ToA certified Assessor for executing the assessment
    - SSC monitors the assessment process & records

2. **Testing Environment:**
    - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
    - Check the duration of the training.
    - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
    - If the batch size is more than 30, then there should be 2 Assessors.
    - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
    - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
    - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
    - Check the availability of the Lab Equipment for the particular Job Role.

3. **Assessment Quality Assurance levels / Framework:**
    - Question papers created by the Subject Matter Experts (SME)
    - Question papers created by the SME verified by the other subject Matter Experts
    - Questions are mapped with NOS and PC
    - Question papers are prepared considering that levels 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
    - Assessor must be ToA certified & trainer must be ToT Certified
    - Assessment agency must follow the assessment guidelines to conduct the assessment

4. **Types of evidence or evidence-gathering protocol:**
    - Time-stamped & geotagged reporting of the assessor from assessment location
    - Center photographs with signboards and scheme specific branding
    - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
    - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. **Method of verification or validation:**
    - Surprise visit to the assessment location
    - Random audit of the batch
    - Random audit of any candidate

6. **Method for assessment documentation, archiving, and access**
    - Hard copies of the documents are stored

- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

The trainee will be tested for the acquired skill, knowledge and attitude through formative/ summative assessment at the end of the course and as this NOS and MC is adopted across sectors and qualifications, the respective AB can conduct the assessments as per their requirements.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective, or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do it upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
NCVET	National Council for Vocational Education and Training
QP	Qualification Pack
MC	Model Curriculum
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
NCO	National Classification of Occupations
ES	Employability Skills
TSSC	Telecom Sector Skill Council
PoP	Point of Presence
Wi-Fi	Wireless Fidelity
SSIDs	Service Set Identifiers
DNS	Domain Name System
EMI	Electromagnetic Interference
EMC	Electromagnetic Compatibility