Model Curriculum

QP Name: IoT Technical Service Operator

QP Code: TEL/Q6214

Version: 3.0

NSQF Level: 3

Model Curriculum Version: 3.0

Telecom Sector Skill Council || 3rd Floor, Plot No. 126, Sector – 44
Gurgaon – 122003

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Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.6214
Minimum Educational Qualification and Experience	10th grade pass OR 9th Grade pass with 1-year relevant experience* OR Previous relevant Qualification of NSQF Level 2.5 with 1.5 years of experience* Or Previous relevant Qualification of NSQF Level 2 with 3-year relevant experience* **Relevant experience in installation, setup and servicing of IoT sensors, devices, or control units in residential, commercial, or industrial settings*
Pre-Requisite License or Training	NA
Minimum Job Entry Age	
Last Reviewed On	19-Aug-2025
Next Review Date	30-June-2028
NSQC Approval Date	19-Aug-2025
QP Version	3.0
Model Curriculum Creation Date	19-Aug-2025
Model Curriculum Valid Up to Date	30-June-2028
Model Curriculum Version	3.0
Minimum Duration of the Course	390 Hours
Maximum Duration of the Course	390 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:

- Assist in IoT device setup and monitoring by conducting pre-deployment checks, supporting network integration, and documenting system performance as per standard operating procedures.
- Apply basic troubleshooting and maintenance techniques such as sensor calibration, firmware updates, connection diagnostics, and minor component replacement to maintain device functionality and system uptime.
- Utilize digital platforms and IoT dashboards to log operational data, track device inventory, update maintenance records, and ensure seamless communication with technical teams and supervisors.
- Follow workplace health, safety, and environmental guidelines, including correct usage of PPE, safe handling of electronic components, incident reporting, and responsible e-waste disposal.
- Work collaboratively with cross-functional teams and clients, using clear, respectful communication, active listening, and problem-solving approaches to support smooth project execution.
- Demonstrate awareness of cybersecurity protocols relevant to IoT environments, ensuring secure data handling, access control, and timely identification of potential threats.

Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
TEL/N6252: Carry out Troubleshooting for IoT Devices and Connectivity Issues NOS Version- 3.0 NSQF Level- 3	**30:00**	**30:00**	**30:00**	**-**	**90:00**
Module 1: Introduction to the role of an IoT Technical Service Operator	10:00	-	-	-	10:00
Module 2: Process of carrying out troubleshooting for IoT devices and connectivity issues	20:00	30:00	30:00	-	80:00
TEL/N6253: Assist in Providing	**20:00**	**30:00**	**40:00**	**-**	**90:00**

IoT Solutions to Clients NOS Version- 3.0 NSQF Level- 3					
Module 3: Assist in Providing IoT Solutions to Clients	20:00	30:00	40:00	-	90:0
TEL/N6254: Assist in Creating Smart Cities by Implementing Internet of Things (IoT) Solutions **NOS Version-3.0** **NSQF Level- 3**	**10:00**	**20:00**	**30:00**	**-**	**60:00**
Module 4: Process of assisting in creating smart cities by implementing Internet of Things (IoT) solutions	10:00	20:00	30:00	-	60:00
TEL/N6255: Use Internet of Things (IoT) Technology in Agriculture **NOS Version-3.0** **NSQF Level- 3**	**10:00**	**20:00**	**30:00**	**-**	**60:00**
Module 5: Process of using Internet of Things (IoT) technology in agriculture	10:00	20:00	30:00	-	60:00
TEL/N9101: Organise Work and Resources as per Health and Safety Standards NOS Version- 3.0 NSQF Level- 3	**10:00**	**10:00**	**10:00**	**-**	**30:00**
Module 6: Organise Work and Resources as per Health and Safety Standard	10:00	10:00	10:00	-	30:00
TEL/N9102: Interact Effectively with Team Members and Customers NOS Version- 3.0 NSQF Level- 3	**10:00**	**10:00**	**10:00**	**-**	**30:00**
Module7: Interact Effectively with Team Members and Customers	10:00	10:00	10:00	-	30:00

DGT/VSQ/N0101: Employability Skills (30 Hours) NOS Version No. 1 NSQF Level- 3	**30:00**	**-**	**-**	**-**	**30:00**
Module 8: Employability Skills (30 hours)	30:00	-	-	-	30:00
Total Duration	**120:00**	**120:00**	**150:00**	**-**	**390:00**

Module Details

Module 1: Introduction to the role of an IoT Technical Service Operator

Bridge Module TEL/N2652, v3.0

Terminal Outcomes:

- Describe the size and scope of the IoT industry and its sub-sectors.
- Discuss the role and responsibilities of an IoT Technical Service Operator.
- Identify various employment opportunities for an IoT Technical Service Operator.
- Discuss the organisational policies on workplace ethics, managing sites, quality standards, personnel management, and public relations (PR).
- Describe the process workflow in the organisation and the role of the IoT Technical Service Operator.
- List the various daily, weekly, and monthly operations/activities that take place at the site under an IoT Technical Service Operator.

Duration: 10:00	**Duration: 00:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the IoT industry and its sub-sectors. • Discuss the role and responsibilities of an IoT Technical Service Operator. • Identify various employment opportunities for an IoT Technical Service Operator. • Discuss the organisational policies on workplace ethics, managing sites, quality standards, personnel management, and public relations (PR). • Describe the process workflow in the organisation and the role of the IoT Technical Service Operator. • List the various daily, weekly, and monthly operations/activities that take place at the site under an IoT Technical Service Operator.	
Classroom Aids	
Partcipant handbook, Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks,	

Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.
Tools, Equipment and Other Requirements
NA

Module 2: Process of carrying out troubleshooting for IoT devices and connectivity issues

Mapped to NOS: TEL/N6252, v3.0

Terminal Outcomes:

- Analyze and diagnose IoT device malfunctions using appropriate tools and inspection techniques.
- Troubleshoot and resolve network connectivity problems by validating settings and coordinating with IT teams.
- Apply firmware updates and perform hardware repairs to restore device functionality.
- Document and communicate troubleshooting processes, escalate unresolved issues, and maintain clear stakeholder interactions.

Duration: 20:00	**Duration: 40:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain common symptoms of IoT device malfunctions (e.g., sensor errors, unresponsiveness). • Describe the physical components of IoT devices and typical causes of damage or interference. • Illustrate diagnostic tools and self-test features used in hardware troubleshooting. • Interpret configuration settings such as device IDs, thresholds, and sampling intervals. • Summarize network connectivity issues including bandwidth bottlenecks and signal strength problems. • Discuss network protocols, IP addressing, and firewall configurations relevant to IoT devices. • Outline firmware update processes, patch management, and component replacement guidelines. • Identify procedures for documenting troubleshooting steps and outcomes. • Explain the escalation process and importance of clear communication with stakeholders.	• Assess IoT devices by observing symptoms and inspecting physical hardware for faults. • Test hardware using diagnostic tools and built-in self-tests to verify device health. • Validate device configurations for correctness in parameters like IDs and sampling intervals. • Detect and diagnose network connectivity issues through network setting verification and testing. • Reset or reconfigure network interfaces as part of connectivity troubleshooting. • Apply firmware updates or roll back versions to restore device functionality. • Replace defective modules or components following standard operating procedures. • Conduct post-troubleshooting tests to confirm device operation is restored. • Document all troubleshooting activities, including errors, fixes, and recommendations. • Escalate unresolved problems with detailed reports to senior technical teams. • Communicate effectively with customers or stakeholders throughout the

	troubleshooting process.
Classroom Aids:	
Partcipant handbook, Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.	
Tools, Equipment and Other Requirements	
Drone diagnostic tools, Internet connectivity, SIM cards with data plans, Field signal tester/analyser, Firmware update cables (USB/OTG), Multimeter, Compass/IMU calibration tools, Screwdriver set, Hex key set, Cleaning brush, Lint-free cloth, Compressed air canister, Maintenance logbook, Weather monitoring application	

Module 3: Assist in Providing IoT Solutions to Clients

Mapped to NOS: TEL/N6253, v3.0

Terminal Outcomes:

- Explain and analyze client requirements and site constraints for IoT solution planning.
- Recommend and assist in designing IoT systems including device selection and architecture.
- Assemble, configure, test, and troubleshoot IoT system components during integration.
- Document technical details, maintain communication with clients, and support feedback management.

Duration: 10:00	**Duration: 20:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain methods to effectively interact with clients to gather technical and functional requirements. • Describe how to document client needs related to data capture, monitoring, control, and reporting. • Analyze site or business constraints such as environmental factors, scale, and connectivity issues. • Discuss the selection criteria for IoT devices, sensors, and communication protocols for specific use cases. • Outline key components of IoT system architecture including cloud and edge computing. • Evaluate power, data, and network configuration options based on operational environments. • Understand the basics of resource and budget estimation for IoT solution deployment. • Summarize integration processes involving APIs, dashboards, and cloud platforms. • Describe documentation standards including network diagrams, component lists, and configuration steps. • Discuss communication protocols for maintaining client feedback loops and reporting to design teams	• Interact with clients to elicit detailed technical and functional requirements. • Document client specifications related to monitoring and control systems. • Assess environmental and operational constraints at the site or business location. • Recommend suitable IoT devices, sensors, and protocols aligned with client needs. • Assist in drafting and reviewing system architecture diagrams involving cloud and edge components. • Configure power supply, data channels, and network setups for the solution. • Support resource and budget estimation activities in coordination with project managers. • Assemble and configure IoT system components as per design specifications. • Conduct preliminary testing to validate device communication and data flow integrity. • Integrate APIs, dashboards, and cloud platforms as part of system setup. • Troubleshoot and resolve basic issues during system integration and trial runs. • Create documentation including component lists and network configuration steps. • Maintain logs of client interactions and

	record technical decisions. • Collect client feedback during pilot tests and relay it to the development team. • Communicate technical observations and improvement suggestions clearly.
Classroom Aids:	
Partcipant handbook, Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.	
Tools, Equipment and Other Requirements	
RGB camera, Thermal sensor, LiDAR unit, SD cards, External SSD, 5G CPE/Modem/Dongle, GPS module, Data visualisation software, Drone flight logbooks, Mission planning software, Ground control software (tablet/laptop), Ground Control Station (GCS)	

Module 4: Assist in Creating Smart Cities by Implementing Internet of Things (IoT) Solutions

Mapped to NOS: TEL/N6254, v3.0

Terminal Outcomes:

- Analyze urban, healthcare, and transport challenges to identify smart city use cases.
- Select and configure IoT devices based on network, power, and site factors.
- Deploy and maintain IoT infrastructure ensuring continuous data transmission and security.
- Interpret IoT data to support operational improvements and stakeholder coordination.
- Troubleshoot IoT systems and ensure optimal device performance.
- Train users and communicate insights from field operations effectively.

Duration: 10:00	**Duration: 20:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify real-world problems in cities where IoT can offer solutions. • Classify IoT devices by purpose, such as smart meters, GPS trackers, and health sensors. • Evaluate installation feasibility based on network, power, and site-specific constraints. • Explain how cloud connectivity, sensor networks, and communication protocols work. • Understand privacy, encryption, and regulatory standards in smart healthcare and transport. • Compare IoT dashboards and platforms for real-time monitoring and alert systems. • Analyze collected data to detect anomalies and suggest improvements.	• Survey and prepare physical locations for IoT device installation. • Install, test, and calibrate IoT sensors and communication hardware. • Configure devices for tracking, alerting, and real-time monitoring functions. • Use dashboards to monitor sensor readings like traffic, health vitals, and energy usage. • Conduct regular checks on battery life, firmware updates, and connectivity health. • Diagnose and fix issues like signal loss, device failures, or data gaps. • Train end users including patients, drivers, or city personnel on system operation. • Document installations, collect user feedback, and report performance insights.
Classroom Aids:	
Partcipant handbook, Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.	
Tools, Equipment and Other Requirements	
RGB camera, Thermal sensor, LiDAR unit, SD cards, External SSD, 5G CPE/Modem/Dongle, GPS module, Data visualisation software, Drone flight logbooks, Mission planning software, Ground	

control software (tablet/laptop), Ground Control Station (GCS)

Module 5: Process of using Internet of Things (IoT) technology in agriculture

Mapped to NOS: TEL/N6255, v3.0

Terminal Outcomes:

- Identify and recommend IoT applications suitable for different agricultural environments
- Install, configure, and maintain IoT systems to support farming automation and data monitoring
- Monitor agricultural IoT data, troubleshoot issues, and maintain device functionality
- Support farmers and stakeholders through training, assistance, and optimization suggestions based on IoT insights

Duration: 10:00	**Duration: 20:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify agricultural tasks like irrigation, soil monitoring, and weather tracking suitable for IoT integration • Assess the suitability of IoT devices based on crop type, land area, and climate • Suggest IoT solutions such as smart irrigation, greenhouse climate control, or livestock tracking • Explain installation procedures for agricultural IoT systems • Understand how IoT sensors monitor environmental parameters such as moisture, pH, and temperature • Describe communication configurations for transmitting data to cloud or mobile platforms • Recognize common troubleshooting practices for sensor and connectivity issues • Discuss the importance of training farmers in data interpretation for decision-making • Outline escalation procedures for unresolved technical issues	• Identify farming operations that can benefit from IoT automation • Install and calibrate sensors for various environmental parameters in fields or greenhouses • Connect devices to suitable power sources like batteries or solar panels • Configure network settings for IoT data transmission • Monitor live sensor data and detect anomalies in readings • Diagnose sensor or connectivity faults and perform basic maintenance • Update device firmware or software periodically • Train farmers to use dashboards or mobile apps for interpreting data • Respond to queries and provide field-level technical assistance • Suggest data-driven practices for optimizing resource use in agriculture
Classroom Aids:	
Partcipant handbook, Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.	
Tools, Equipment and Other Requirements	
RGB camera, Thermal sensor, LiDAR unit, SD cards, External SSD, 5G CPE/Modem/Dongle, GPS module, Data visualisation software, Drone flight logbooks, Mission planning software, Ground	

control software (tablet/laptop), Ground Control Station (GCS)

Module 6: Organise Work and Resources as per Health and Safety Standards

Mapped to NOS: TEL/N9101, v3.0

Terminal Outcomes:

- Demonstrate how to maintain an organised, clutter-free, and ergonomically safe workspace aligned with 5S and organisational SOPs.
- Apply standard health, safety, and environmental (HSE) practices, including hazard detection, PPE usage, and incident reporting as per workplace protocols.
- Use safe material handling, energy conservation techniques, and equipment maintenance procedures to ensure resource-efficient and risk-free operations.
- Perform systematic waste segregation and disposal in compliance with hazardous and e-waste guidelines.

Duration: 10:00	**Duration: 20:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the principles and importance of 5S methodology for workplace organisation. • Illuminate on the organisational SOPs related to workflow management, task allocation, and quality assurance. • Comprehend health, safety, and environmental policies, including national/international standards like ISO 45001 and ISO 14001. • Recognise common workplace hazards such as ESD, fire risks, electrical faults, and EMI interference, as well as their potential impacts. • Discuss different types and correct uses of personal protective equipment (PPE) in a drone maintenance environment. • Discuss various energy conservation practices relevant to lighting, HVAC, and equipment usage. • Explain the role and benefits of digital tools for logging, task management, and inventory control in a workplace organisation.	• Demonstrate how to organise and maintain a clean, clutter-free, and ergonomically safe workspace in compliance with 5S principles. • Use digital platforms or apps to log work progress, record material consumption, and update task checklists accurately. • Apply organisational SOPs to follow designated workflows and escalate delays or material shortages. • Show correct selection, usage, and disposal of PPE while handling drones, tools, and hazardous materials. • Role-play to report workplace hazards such as spills, loose wiring, or EMI sources in real time. • Perform safe lifting, equipment handling, and maintain correct posture during physical tasks to prevent injury. • Conduct lockout/tagout procedures before servicing electrical or moving drone components. • Demonstrate safe battery handling, charging, and storage processes using

	approved methods and equipment. • Demonstrate safe manual handling techniques, workstation ergonomics, and first aid basics for workplace injuries. • Perform energy conservation actions such as switching off unused equipment and reporting any malfunctioning devices. • Employ appropriate techniques to segregate and dispose of waste correctly into hazardous, recyclable, and e-waste bins following SOPs. • Role-play effective communication of safety breaches, incidents, or health symptoms to supervisors or authorities promptly.
Classroom Aids	
Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.	
Tools, Equipment and Other Requirements	
ESD Wrist Straps, PPE (gloves, goggles, reflective vests, Safety boots), First Aid Kit, Waste Bins (Recyclable, Non-recyclable, Hazardous), Fire Extinguisher, Digital Logbook or Task Management App, Mobile/Tablet Device, Sample E-waste Materials, Cleaning Supplies, Tool Trolley, Lockout/Tagout equipment	

Module 7: Interact Effectively with Team Members and Customers

Mapped to NOS: TEL/N9102, v3.0

Terminal Outcomes:

- Demonstrate effective communication with supervisors, stakeholders, and team members using appropriate verbal, non-verbal, and digital tools.
- Collaborate with team members to resolve conflicts, support inclusivity, and achieve shared goals in hybrid or in-person work environments.
- Apply emotional intelligence and cultural sensitivity while interacting with customers, colleagues, and persons with disabilities (PwDs).
- Role-play workplace situations involving feedback reception, conflict de-escalation, and inclusive participation to build a respectful work culture.

Duration: 10:00	**Duration: 20:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the organisational hierarchy and the roles and responsibilities of supervisors, team members, and stakeholders. • Describe professional etiquette for verbal, non-verbal, and digital communication in face-to-face and remote settings. • Explain the importance of clear communication, active listening, and timely information sharing at the workplace. • List commonly used communication tools (e.g., emails, messaging apps, video conferencing platforms) and their features. • Explain methods for giving and receiving feedback constructively within a professional context. • Identify common challenges faced by Persons with Disabilities (PwDs) and strategies for supporting them in the workplace. • Summarise the legal and organisational policies on diversity, equity, and inclusion. • Explain techniques for preventing and resolving conflicts through respectful dialogue and escalation when necessary.	• Demonstrate professional communication with supervisors or clients through various tools like email, chat, or virtual meetings. • Role-play a workplace situation where feedback is received and acted upon constructively to improve performance. • Apply emotional intelligence principles during group activities or customer interactions to build rapport and cooperation. • Engage appropriate conflict resolution techniques to de-escalate disagreements and restore team harmony. • Display inclusive behaviour, cultural sensitivity, and emotional intelligence while interacting with people from diverse backgrounds and PwDs. • Role-play to collaborate with peers on group tasks, aligning with team goals while respecting individual contributions. • Conduct a virtual meeting adhering to digital etiquette, ensuring participation and accessibility for all. • Facilitate respectful team discussions where all voices are heard, and equal opportunity for input is maintained.

Classroom Aids
Training Kit (Trainer Guide, Presentations), Whiteboard, Markers, Notebooks, Pens, Laptop/Computer with an Internet connection, Speakers, Projector or Large screen.
Tools, Equipment and Other Requirements
Feedback forms, Communication tool, etc.

Module 8: DGT/VSQ/N0101: Employability Skills (30 Hours)

Mandatory Duration: 30:00			
Location: On-Site			
S.No.	**Module Name**	**Key Learning Outcomes**	**Duration (hours)**
1.	Introduction to Employability Skills	• Discuss the importance of Employability Skills in meeting the job requirements	1 Hour
2.	Constitutional values - Citizenship	• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society, etc., that are required to be followed to become a responsible citizen. • Show how to practice different environmentally sustainable practices	1 Hour
3.	Becoming a Professional in the 21st Century	• Discuss 21st century skills. • Display a positive attitude, self-motivation, problem-solving, time management skills and a continuous learning mindset in different situations.	1 Hour
4.	Basic English Skills	• Use appropriate basic English sentences/phrases while speaking	2 Hours
5.	Communication Skills	• Demonstrate how to communicate in a well-mannered way with others. • Demonstrate working with others in a team	4 Hour
6.	Diversity & Inclusion	• Show how to conduct oneself appropriately with all genders and PwD • Discuss the significance of reporting sexual harassment issues in time	1 Hour
7.	Financial and Legal Literacy	• Discuss the significance of using financial products and services safely and securely. • Explain the importance of managing expenses, income, and savings. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws	4 Hours
8.	Essential Digital Skills	• Show how to operate digital devices and use the associated applications and features safely and securely • Discuss the significance of using the internet	3 Hours

		for browsing and accessing social media platforms safely and securely	
9.	Entrepreneurship	• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges	7 Hours
10.	Customer Service	• Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately	4 Hours
11.	Getting ready for apprenticeship & Jobs	• Create a biodata • Use various sources to search and apply for jobs • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities	2 Hours

LIST OF TOOLS & EQUIPMENT FOR EMPLOYABILITY SKILLS		
Sl No.	**Name of the Equipment**	**Quantity**
1	Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below)	As required
2	UPS	As required
3	Scanner cum Printer	As required
4	Computer Tables	As required
5	Computer Chairs	As required
6	LCD Projector	As required
7	White Board 1200mm x 900mm	As required
Note: Above Tools &Equipment not required, if Computer LAB is available in the institute.		

Module 9: On-the-Job Training

Mapped to QP: TEL/Q6214, v3.0

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

Terminal Outcomes

- Demonstrate proper handling and basic assembly of IoT devices and sensors including connectors, power units, and communication modules.
- Perform pre-deployment safety checks and device readiness inspection as per SOPs.
- Apply basic troubleshooting techniques to identify and report hardware or software issues in IoT devices.
- Use digital tools or mobile apps to log device operational status, data transmission, and maintenance records.
- Conduct routine battery inspection, charging, and safe storage for battery-powered IoT devices.
- Assist in safe device installation, activation, and monitoring under supervision.
- Perform basic cleaning and dust removal of device sensors, communication ports, and enclosures.
- Track and update IoT device inventory using checklist formats or digital asset management platforms, including spare parts and consumables.
- Communicate effectively with supervisors regarding task status, issues, and handover notes.
- Use energy efficiently by switching off unused devices and following equipment handling best practices.
- Dispose of damaged batteries, electronic waste, and consumables in compliance with environmental and safety protocols.
- Demonstrate emotional intelligence and respectful conduct in interactions with colleagues and clients.
- Role-play professional customer handling scenarios, especially during field service or client support visits.
- Exhibit appropriate responses to constructive feedback from supervisors or peers.
- Record issues, incidents, or delays during field service visits in standard reporting formats.

Annexure

Trainer Requirements (IoT Technical Service Operator)

Trainer Prerequisites						
Minimum Educational Qualification	**Specialisation**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialisation***	***Years***	***Specialisation***	
Diploma after 10th Class	ECE / Electrical / CS / IT / Mechatronics and or any other related field	4	Installation, configuration, and maintenance of basic IoT systems or sensors	1	IoT device handling and maintenance	Eligible for ToT program
Graduate	ECE / Electrical / CS / IT / Mechatronics and or any other related field	1	Installation, configuration, and maintenance of basic IoT systems or sensors	-	-	Eligible for ToT program

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**IoT Technical Service Operator", "TEL/Q6214, v3.0**", Minimum accepted score is 80%	Certified for Job Role: "**Trainer (VET and Skills)",** mapped to Qualification Pack: **"MEP/Q2601, v3.0",** Minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements (IoT Technical Service Operator)

Assessor Prerequisites						
Minimum Educational Qualification	**Specialisation**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialisation***	***Years***	***Specialisation***	
Diploma after 10th Class	ECE / Electrical / CS / IT / Mechatronics and or any other related field	7	Installation, configuration, and maintenance of basic IoT systems or sensors	4	IoT device handling and maintenance	Eligible for ToA program
Graduate	ECE / Electrical / CS / IT / Mechatronics and or any other related field	4	Installation, configuration, and maintenance of basic IoT systems or sensors	-	-	Eligible for ToA program

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**IoT Technical Service Operator", "TEL/Q6214, v3.0**", Minimum accepted score is 80%	Certified for Job Role: "**Assessor (VET and Skills)",** mapped to Qualification Pack: **"MEP/Q2701, v3.0",** Minimum accepted score as per MEPSC guidelines is 80%.

Trainer Requirements (Employability Skills 30 hours)

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	**Specialization**	**Years**	**Specialization**	
Graduate/CITS	Any discipline			2	Teaching experience	Prospective ES trainer should: • have good communication skills • be well versed in English • have digital skills • have attention to detail • be adaptable • have willingness to learn
Current ITI trainers	Employability Skills Training (3 days full-time course done between 2019-2022)					
Certified current EEE trainers (155 hours)	from Management SSC (MEPSC)					
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)					

Assessor Certification	
Domain Certification	**Platform Certification**
Certified in 30-hour Employability NOS (2022), with a minimum score of 80% OR Certified in 120- OR 90- OR 60-hour Employability NOS (2022), with a minimum score of 80%	NA

Master Trainer Requirements (Employability Skills 30 hours)

Master Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	**Specialization**	**Years**	**Specialization**	
Graduate/CITS	Any discipline			3	Employability Skills curriculum training experience with an interest to train as well as orient other peer trainers	Prospective ES trainer should: • have good communication skills • be well versed in English • have digital skills • have attention to detail • be adaptable • have willingness to learn
Certified Master Trainer	Qualification Pack: Master Trainer (MEP/Q2602			3	EEE training of Management SSC (MEPSC) (155 hours)	

Assessor Certification	
Domain Certification	**Platform Certification**
Certified in 30-hour Employability NOS (2022), with a minimum score of 90%. OR Certified in 120- OR 90- OR 60-hour Employability NOS (2022), with a minimum score of 90%	NA

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.
    - The 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 the 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 and verified by the other subject Matter Experts.
    - Questions are mapped with NOS and PC.
    - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi- skilled individuals, and level 4 and above are for the skilled, supervisor & higher management.
    - An assessor must be ToA certified & the trainer must be ToT Certified.
    - The 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 the 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:
    - A surprise visit to the assessment location.
    - A 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.

Assessment Strategy (Employability Skills 30 hours)

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	A key learning outcome is a 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 upon the completion of the training.
Terminal Outcome	The 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
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment