Model Curriculum

QP Name: In-Building Wireless Solution (IBS) Technician

QP Code: TEL/Q6701

QP Version: 1.0

NSQF Level: 4

Model Curriculum Version: 1.0

Telecom Sector Skill Council |Estel House, Sector-44, Plot No. 126, 3rd Floor
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Contents

Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	In-Building Solution
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.9900
Minimum Educational Qualification and Experience	12th grade Pass or equivalent OR 11th grade pass (with 1-year relevant experience) OR 10th grade pass (with 2-year relevant experience)
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	31.01.2027
NSQC Approval Date	31.01.2024
QP Version	1.0
Model Curriculum Creation Date	31.01.2024
Model Curriculum Valid Up to Date	31.01.2027
Model Curriculum Version	1.0
Minimum Duration of the Course	420 hours
Maximum Duration of the Course	420 hours

Program Overview

This section summarizes 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:

- Prepare for deploying Inbuilding Wireless Solutions
- Install Wireless Network Solutions at the site
- Maintain IBS networks at site
- Organise Work and Resources as per Health and Safety Standards
- Employability Skills (60hrs)

Compulsory Modules

The table lists the modules, their duration and mode of delivery.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	**10:00**	**20:00**	**00:00**	**-**	**30:00**
Module 1: Introduction to the latest trends in cellular and wireless Networks, Role and Responsibilities of a In-Building Wireless Solution (IBS) Technician	10:00	20:00	00:00	-	30:00
TEL/N6701: Prepare for deploying In-Building Wireless Solutions NOS Version-1.0 NSQF Level- 4	**10:00**	**20:00**	**30:00**	**-**	**60:00**
Module 2: Prepare the site for deploying Wireless Solutions	10:00	20:00	30:00	-	60:00
TEL/N6702: Install Wireless Network Solutions at Site NOS Version-1.0 NSQF Level- 4	**20:00**	**70:00**	**60:00**	**-**	**150:00**
Module 3: Installation of Wireless Network Solutions	20:00	70:00	60:00	-	150:00

TEL/N6703: Maintain IBS Networks at the site NOS Version-1.0 NSQF Level- 4	**10:00**	**50:00**	**30:00**	-	**90:00**
Module 4: Maintain Network at site	10:00	50:00	30:00	-	90:00
TEL/N9101: Organise Work and Resources as per Health and Safety Standards NOS Version-2.0 NSQF Level-3	**10:00**	**20:00**	**00:00**	-	**30:00**
Module 5: Process of organising work and resources as per health and Safety standards	10:00	20:00	00:00	-	30:00
DGT/VSQ/N0102: Employability Skills (60 Hours) NOS Version No. 1 NSQF Level- 3	**60:00**	**00:00**	**00:00**	-	**60:00**
Employability Skills (60 Hours)	60:00	00:00	00:00	-	60:00
Total Duration	**120:00**	**180:00**	**120:00**	-	**420:00**

Module Details

Module 1: Introduction to the latest trends in cellular and wireless networks, role and responsibilities of a In-Building Wireless Solution (IBS) Technician

Bridge Module

Terminal Outcomes:

- Discuss the job role of a Telecom Electrician (Basic).
- Explain the scope of work for a Telecom Electrician (Basic).

Duration: *10:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the latest trends in the Telecom industry with the introduction of 5G • Discuss how the Indian market is going to perform in the next ten years with regard to telecom industry • Discuss how the Indian telecom industry affect the Indian economy • List the safety precautions to be taken while at work • Discuss the importance of using the safety equipment while at work • Explain the Role and Responsibilities of the Inbuilding Wireless Solution Technician • Explain the professional skills required to move up in the career ladder	• Demonstrate through a role play the responsibilities of a Inbuilding wireless solution technician • Demonstrate through video the latest trends in telecom • List the advantages of using 5G networks • State the growth opportunities the telecom sector brings in for the country • List the professional skills required to move up in the career
Classroom Aids:	
Whiteboard, Marker, Duster, Projector, Laptop, PowerPoint Presentation	
Tools, Equipment and Other Requirements	
Nil	

Module 2: Prepare the site for deploying Wireless Solutions

Mapped to NOS: TEL/N6701, v1.0

Terminal Outcomes:

- Perform site survey (Predictive, Active and Passive) for implementing the wireless solutions
- Inspect site readiness for installation of network devices
- Prepare the system design

Duration: *10:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the need for uninterrupted wireless connectivity in the high-rise buildings • Explain the working of the survey tools • Explain the method of assessing the site/location to determine the current status of wireless coverage, data rates, network capacity, quality of service • Explain the term radio frequency and dead spots and discuss the method of selecting the appropriate location of RF (Radio Frequency) coverage holes and interference • Explain the site survey methods as per the site location and available resources **methods:** predictive, Passive, active • Explain the working of the software to enter the data collected from the site visit to the survey software for detailed analysis as per organization standards • Explain the method of recording the results with survey details details: signal spectrum, cable paths, mounting locations, the list of activities for installation, hardware required, configuration recommendations, licensing information, etc. • Discuss survey report preparation based on the software recommendations • Explain how to study the floor plan for installation of devices	• Demonstrate the working of the survey tools • Demonstrate the working of the site survey software • Demonstrate how to identify blind spots in a building • Show the process of entering the survey details in the site survey software • Show the interpretation of the detailed survey report • Demonstrate how to prepare the floor design for implementing inbuilding wireless solution

• Explain the different types of access points viz. lightweight points, autonomous points (in 2.4 or 5 GHz band) • Discuss the ethernet cable requirement and number of access points depending size of the building and the client budget • Discuss the various authorities to connect for procuring the certificate for installation of the inbuilding wireless solutions from the competent authorities • Discuss the methods of measuring the space requirements for different devices in the network • Discuss the suitable signal sources available depending on the capacity and coverage **Signal sources:** off air antennas (roof top donor antennas), Base Transceiver station(BTS) and micro cells • Explain the different inbuilding wireless solutions depending on the available area, client requirement and budget *Area: small facility in suburb/rural: Passive DAS (Distributed Antenna System) using Bidirectional Amplifier System (BDA)* *Area:5000-15000 sq ft: micro cells* *Area: 1000000-50,00,000 sq ft: Active Distributed Antenna System* • Discuss the methods of creating the installation design for number of access points and distribution units within the available space	

Classroom Aids:
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.
Tools, Equipment and Other Requirements
Spectrum analyzer, signal strength meter, Wi-fi scanners, measuring tape and laser distance meter, digital floor plans, power over ethernet tester, wireless access points, camera, laptop or mobile, power outlet tester, battery pack, PPE kits, Site survey software, internet connectivity, operation manual

Module 3: Installation of Wireless Network Solutions

Mapped to NOS: TEL/N6702, v1.0

Terminal Outcomes:

- Prepare for installation at the site
- Install cellular signal boosters at the site
- Install Distributed Antenna System at the Site
- Install additional Microcells to the existing network
- Configure the devices in the network
- Test the working of the connectivity
- Monitor documentation and support

Duration: *20:00*	**Duration**: *70:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the methods of interpreting the installation design layout for setting up the distributed antenna system • Discuss the suitable distribution technology to be chosen in the area of the installation site technology: Cellular Signal Boosters, Active DAS, microcells • Explain how to verify the installation tool kit is available and is in a working condition and the installation site is free of any obstruction • Discuss the methods of checking compatibility and usability of the hardware received for commissioning • Explain the procedure to wear the PPE kit before the installation process • Explain the steps to install the donor antenna at the top of the building at the right direction to receive cellular signals (different antenna for different carriers) • Discuss the steps to connect bidirectional amplifier (BDA) to signal source via co-axial cables to receive and amplify signals • Explain the steps to install the couplers at the designated area in the building to receive	• Demonstrate how to interpret the installation design • Demonstrate the steps to implement bi-directional amplifiers to boost the coverage • Show the steps to implement DAS system to enhance the coverage inside a large building • Demonstrate the setting up of microcells for improving coverage inside a building with blind spots • Show through a video function of each device in DAS system • Demonstrate the use of PPE kit using video • Show the installation of software for each device • Show the steps to prepare maintenance document for planned maintenance • Show the steps to check the signal strength in a network • Demonstrate how to use the monitoring software to monitor the network • Demonstrate the use of various tools in network monitoring

signal from BDA and split the signals in a specific ratio • Explain the use of splitters at the designated area to divide the signals further and distribute to other areas within the building • Explain how the attenuators adjust the signal strength and balance the signal levels in the system • Discuss the tools used to test the signal strength and quality • Explain the installation of DAS Headend Unit (contains amplifiers, filters, combiners and distribution modules) or the central hub which receives wireless signals from the base station (signal source) and distribute them to the Remote Units (contains amplifiers, filters and signal processing components) • Discuss the use of HEU and connect the HEU to the base station (signal source) via fiber optic or coaxial cable (could be on a roof top or indoor) • Discuss the steps to install the antennas in strategic locations inside the building to receive and transmit signals throughout the building • Discuss the steps to connect the antennas to the remote units using a coaxial cable to carry amplified signals • Explain the use of Power Supply units and steps to provide power to the components of the Active DAS system • Explain the steps to install the system controller software to manage and monitor the Active DAS System • Discuss the number of cells required based on the coverage • Explain how to identify the location where the microcell needs to be installed • Discuss the steps to mount the small cells on poles or secure them to the structure through bolts or clamps in the identified location • Explain the steps to connect the small cells to the existing network to provide coverage, configure the small cells and test the working of the connection • Explain the steps to Install the device configuration software in the laptop/desktop	

• Discuss the steps to configure the central hub for appropriate signal frequency and power levels • Explain the configuration of the remote units to receive and amplify signals correctly • Explain the configuration of the antennas to provide optimal coverage and excellent signal strength • Explain the configuration of the amplifiers to ensure they are amplifying signals to the desired level • Explain how to use cable tester or media tester to check the proper working of the cables • Explain the steps to measure the reflected signal quality or loss of signal using Time Domain Reflectometer (TDR used for copper connections) or Optical Time Domain Reflectometer (OTDR used for optical fiber connections) • Discuss the use of power meter and measure the power levels at various points in the DAS system • Explain the Sweep (frequency sweep, sine sweep) Test and PIM (Passive Intermodulation Distortion) to check the quality of the signal transmitted • Explain the spectrum analyzer to measure noise levels at various points throughout the building • Explain how to test the communication between the HEU, remote units and other components to ensure they are properly connected and are communicating to each other • Explain load testing • Explain stress testing • Explain the importance of user manuals, installation guides and technical specifications for DAS system • Explain the importance of support document • Explain how to maintain the asset details with their nomenclature • Discuss the technical support procedure with	

the vendors • Explain the DAS system to all the staff members responsible for maintaining the system • Discuss the record maintenance process with the team records: installation, maintenance, upgrade and repairs • Explain how to document maintenance schedule (daily, weekly, monthly schedule)	
Classroom Aids:	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
Tools, Equipment and Other Requirements	
Spectrum analyzer, signal strength meter, Wi-fi scanners, measuring tape and laser distance meter, digital floor plans, power over ethernet tester, wireless access points, camera, laptop or mobile, power outlet tester, battery Backup, Donor Antenna, Bidirectional amplifier, remote units, co-axial cables, fiber optic cables, antenna, splitters, couplers, combiners, signal source, DAS System, HEU, co-axial connectors, adapters, monitoring and control systems, power meter, spectrum analyzer, Optical time domain reflectometer, PPE kits, Site survey software, internet connectivity, operation manual	

Module 4: Maintain Network at site

Mapped to NOS: TEL/N6703, v1.0

Terminal Outcomes:

- Preventive maintenance of installed components
- Troubleshoot and repair faulty devices
- Liaise with customers during service visits at the site

Duration: *10:00*	**Duration**: *50:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of planned scheduled maintenance and cleaning of devices viz daily, weekly, monthly and information about it to the network operation team and supervisors about the maintenance planned for the day • Explain the steps to inspect the system components for wear and tear, corrosion or damage components: antennas, cables, amplifiers and other signal processing elements • Discuss the steps to test the system performance for system degradation or other performance issues • Explain the methods of cleaning the dust from the system periodically • Discuss the regular checking of the devices and the control room to ensure the temperature is maintained in the room and the DAS devices are not getting hot • Discuss the set-up wizard to update firmware and software for all system components whenever required • Explain how to verify alarms and alerts are configured properly and are functioning • Explain how to identify the faulty device by checking the error logs or by using network diagnostic tools and isolating it • Explain how to test the device to identify the cause of the problem • Discuss the repair or replacing methods of different devices depending on the nature of the problem using the manual • Explain the mechanism of checking if the problem is resolved • Discuss the details to be documented about the repair viz cause of the problem, steps taken to repair it, and any parts that were replaced, or any software updated	• Show how to prepare a maintenance schedule for the system components • Demonstrate the cleaning and dusting of system components without damaging any intricate parts • Demonstrate the steps to instal or update the firmware in all the systems • Demonstrate how to interpret the error log reports • Demonstrate the documentation of maintenance work • Using a role play demonstrate the conversation between a customer and a support executive

• Discuss the method of informing customers and other authorities of the planned maintenance activities • Discuss the information to be provided to customers with regard to maintenance to be carried out and possible deterioration in system performance • Discuss the documentation process of the maintenance work • Discuss how to obtain timely feedback and suggestions from customers • Explain the importance of maintaining a positive and professional relationship with customers at all times	
Classroom Aids:	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
monitoring and control systems, power meter, spectrum analyzer, Optical time domain reflectometer, PPE kits, cloth for wiping the devices, cleaner, sanitizer, internet connectivity, operation manual	

Module 5: Process of organizing work and resources as per health and safety standards

Mapped to NOS: TEL/N9101, v2.0

Terminal Outcomes:

- Explain the importance of performing work as per quality standards.
- Explain the importance of maintaining a safe, healthy and secure working environment.
- Explain the importance of conserving material/energy/electricity.
- Describe the process of using effective waste management/recycling practices.

Duration: *10:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain various strategies pertinent to their field (such as internet searches, asking peers and managers, enrolling for courses and certifications, etc.) that can be used to pursue advancement in their skills. • State key performance indicators for the new tasks. • Describe feedback processes and formats. • Explain timelines and goals as well as their relevance to work allocated. • Explain the importance of quality and timely delivery of the product/service. • Explain the escalation matrix and its importance, especially in case of emergencies. • Explain various ways of time and cost management. • State the rules/regulations for maintaining health and safety at the workplace. • Explain the meaning of hazard, different types of health and safety hazards found in the workplace, risks and threats based on the nature of work. • Explain the relevant signage, warnings, labels or descriptions on equipment, etc. while carrying out work activities.	• Demonstrate how to record/document tasks completed as per the requirements within specific timelines. • Show how to analyse problems accurately and communicate different possible solutions to the problem. • Demonstrate how to report any identified breaches in health, safety, and security policies and procedures to the designated person. • Demonstrate the process of using safety materials such as goggles, gloves, earplugs, caps, ESD pins, covers, shoes, etc. • Demonstrate the process of handling heavy and hazardous materials with care, while maintaining appropriate posture. • Demonstrate the process of carrying out routine cleaning of tools, machines and equipment. • Demonstrate ways to optimise the use of electricity/energy in various tasks/activities/processes. • Demonstrate the process of performing periodic checks of the functioning of the equipment/machine and rectify wherever required. • Demonstrate ways to use electrical equipment and appliances properly

• Describe the procedures to report breaches in health, safety and security. • Describe the organisation's procedures for different emergency situations and the importance of following the same. • Describe different methods of cleaning, disinfection, sterilization, and sanitization. • Explain the significance of personal hygiene practice including hand hygiene. • Explain the path of disease transmission. • Describe the correct method of donning and doffing of PPE. • Explain different ways of managing resources and material efficiently. • Explain common electrical problems and common practices of conserving electricity. • Explain categorization of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics and use of different colours of dustbins. • Describe the organisation's procedures for minimizing waste. • Explain waste management and methods of waste disposal. • State common sources of pollution and ways to minimize it.	• Demonstrate the process of disposing non-recyclable and hazardous waste as per recommended processes.
Classroom Aids:	
Training Kit (Trainer **G**uide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Relevant stationery, First Aid Kit and Equipment used in Medical Emergencies.	

Module 6: Employability Skills

Mapped to NOS: DGT/VSQ/N0102

Mandatory Duration: 60:00			
Location: On-Site			
S.No.	**Module Name**	**Key Learning Outcomes**	**Duration(hours)**
1.	Introduction to Employability Skills	• Discuss the Employability Skills required for jobs in various industries • List different learning and employability related GOI and private portals and their usage	1.5 Hours
2.	Constitutional values - Citizenship	• 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 • Show how to practice different environmentally sustainable practices.	1.5 Hours
3.	Becoming a Professional in the 21st Century	• Discuss 21st century skills. • Display positive attitude, self - motivation, problem solving, time management skills and continuous learning mindset in different situations.	1 Hours
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 internet for browsing, accessing social media platforms, safely and securely	3 Hours
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

S. 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 7: On-the-Job Training

Mapped to In-Building Solution Wireless (IBS) Technician

Mandatory Duration: *120:00*	**Recommended Duration:** *00:00*
Module Name: On-the-Job Training **Location: On Site**	

Terminal Outcomes

1. Identify potential electrical hazards and conduct thorough risk assessments to determine the level of protection required.
2. Choose the right protective devices, such as circuit breakers, fuses, relays, and surge protectors, based on the specific needs of the electrical system and its components.
3. Configure protection settings, including current and voltage levels, time delays, and coordination with upstream and downstream devices to ensure proper fault isolation.
4. Incorporate redundancy in protection systems to enhance reliability and minimize downtime in case of a fault or failure.
5. Establish effective grounding and bonding systems to reduce the risk of electrical faults and protect against electrical shock hazards.
6. Configure protective relays to detect abnormal conditions and trip circuit breakers or initiate other protective actions when necessary.
7. Perform arc flash hazard analysis to assess the potential energy release in the event of a fault and design protective measures accordingly.
8. Thoroughly test and commission protection systems to validate their proper operation under normal and fault conditions.
9. Develop and implement a regular maintenance plan, including periodic testing and inspection of protective devices to ensure ongoing reliability.
10. Establish comprehensive emergency response plans to address electrical faults and coordinate actions to minimize downtime and safety risks.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	NA	3	Eligible for ToT program	4	Telecommunication – Cellular and Wireless Networks	Eligible for ToT program

Trainer Certification	
Domain Certification	**Platform Certification**
Job Role "**In-Building Wireless Solutions (IBS) Technician**", "TEL/Q6701, v1.0", Minimum accepted score is 80%.	Trainer is certified for the job role **"Trainer (VET & SKILLS)"**; mapped to Qualification Pack: - "MEP/Q2601, v2.0" with minimum 80% of score.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate	NA	3	Eligible for ToT program	4	Telecommunication – Cellular and Wireless Networks	Eligible for ToT program

Assessor Certification	
Domain Certification	**Platform Certification**
Job Role "**In-Building Wireless Solutions (IBS) Technician**", "TEL/Q6701, v1.0", Minimum accepted score is 80%.	Assessor is certified for the job role **"Assessor (VET & SKILLS)"**; mapped to Qualification Pack: - "MEP/Q2701, v2.0" with minimum 80% of score.

Trainer Requirements (Employability Skills 60 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 (VET and Skills)					

Trainer 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 60 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			3	EEE training of Management SSC (MEPSC) (155 hours)	

Master Trainer 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 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 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 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 60 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