



# Model Curriculum

**QP Name: Active Network Management Associate**

**QP Code: TEL/Q6302**

**QP Version: 3.0**

**NSQF Level: 4**

**Model Curriculum Version: 1.0**

Telecom Sector Skill Council,  
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# Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.1301
Minimum Educational Qualification & Experience	<p>12th grade pass  <b>OR</b>  Completed 2nd year of 3-year diploma (after 10th)  <b>OR</b>  Pursuing 2nd year of 3-year regular Diploma (after 10th)  <b>OR</b>  10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent  <b>OR</b>  8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS  <b>OR</b>  10th grade pass and pursuing continuous schooling  With No Experience required  <b>OR</b>  Previous relevant Qualification of NSQF Level 3.0 with 3-year relevant experience</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	30/12/2021
Next Review Date	30/12/2024
NSQC Approval Date	30/12/2021
Version	3.0
Model Curriculum Creation Date	30/12/2021
Model Curriculum Valid Up to Date	30/12/2024
Model Curriculum Version	1.0

<b>Minimum Duration of the Course</b>	540 Hours, 0 Minutes
<b>Maximum Duration of the Course</b>	540 Hours, 0 Minutes

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# 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.

- Identify the role, responsibilities, and scope of work of an Active Network Management Associate
- Explain the provisioning of network management equipment
- Explain the monitoring and reporting the status of Synchronous Digital Hierarchy (SDH), Dense Wavelength Division Multiplexing (DWDM) and L2 equipment
- Discuss how to plan work effectively, implement safety practices and optimize use of resources
- Demonstrate how to communicate, develop interpersonal skills and become gender and Person with Disability (PwD) sensitive.

## 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
<b>Bridge Module</b>	<b>20:00</b>	<b>10:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>
Module 1: Role and Responsibilities of an Active Network Management Associate	20:00	10:00	00:00	00:00	30:00
<b>TEL/N6307 – Provisioning of Active Network Equipment NOS Version No. 2.0 NSQF Level 4</b>	<b>60:00</b>	<b>80:00</b>	<b>40:00</b>	<b>00:00</b>	<b>180:00</b>
Module 2: Provisioning of Active Network Equipment	60:00	80:00	40:00	00:00	180:00
<b>TEL/N6309 – Monitoring and Reporting the Status of SDH, DWDM and L2 Equipment NOS Version No. 2.0 NSQF Level 4</b>	<b>50:00</b>	<b>80:00</b>	<b>80:00</b>	<b>00:00</b>	<b>210:00</b>
Module 3: Monitoring and Reporting the Status of SDH, DWDM and L2 Equipment	50:00	80:00	80:00	00:00	210:00
<b>TEL/N9101 – Organise work and resources as per health and safety standard NOS Version No. 1.0 NSQF Level 4</b>	<b>10:00</b>	<b>20:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>

Module 4: Plan Work Effectively, Optimise Resources and Implement Safety Practices	10:00	20:00	00:00	00:00	30:00
<b>TEL/N9102 – Interact Effectively with Team Members and Customers</b> <b>NOS Version No. 1.0</b> <b>NSQF Level 4</b>	<b>10:00</b>	<b>20:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>
Module 5: Communication and Interpersonal skills	10:00	20:00	00:00	00:00	30:00
DGT/VSQ/N0102 Employability Skills (60 Hours)	60:00	00:00	00:00	00:00	60:00
<b>Total Duration</b>	<b>210:00</b>	<b>210:00</b>	<b>120:00</b>	<b>00:00</b>	<b>540:00</b>

# Module Details

## Module 1: Role and Responsibilities of an Active Network Management Associate *Bridge Module*

### Terminal Outcomes:

- Identify the role and responsibilities of an Active Network Management Associate.

<b>Duration:</b> 20:00	<b>Duration:</b> 10:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the size and scope of the Telecom industry and its various sub-sectors.</li> <li>• Define the basics of networking and related concepts such as networking components and working of a network.</li> <li>• Discuss the various opportunities for an Active Network Management Associate in the Telecom industry.</li> <li>• List the role and responsibilities of an Active Network Management Associate.</li> </ul>	<ul style="list-style-type: none"> <li>• Analyse the organisational policies on incentives, delivery standards, personnel management and public relations (PR) pertinent to the job role.</li> <li>• Discuss the importance of seeking help from experts during any stage of main activity in order to avoid any escalation.</li> <li>• Discuss how to comply with security policies of the network operator such as access control, authentication, nonrepudiation, data confidentiality, etc.</li> </ul>
<b>Classroom Aids:</b>	
Laptop with software like MS Office and internet, white board, marker, projector	
<b>Tools, Equipment and Other Requirements</b>	

## Module 2: Provisioning of Active Network Equipment Mapped to TEL/N6307 v1.0

### Terminal Outcomes:

- Analyse the pre-requisites for provisioning
- Perform provisioning using the NMS
- Provide ethernet services
- Report and record provisioning

Duration: 60:00	Duration: 80:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List the networking equipment specifications and system requirements for configuration.</li> <li>• Explain how to launch Network Management System (NMS) with credential provided for GUI.</li> <li>• Define Software-Defined Networking (SDN) or DWDM with its applications.</li> <li>• Explain different amplifier modules and Erbium-Doped Fibre Amplifier (EDFA).</li> <li>• Discuss how to select amplifier gain and amplifier type for DWDM networks.</li> <li>• Elaborate on the implementation of Dynamic Circuit Network (DCN) management amplification.</li> <li>• Describe how to select transmission cards based on even or odd channel multiplexing and channel spacing.</li> <li>• Discuss the importance of providing correct DWDM SFPs in the Multiple Dwelling Units (MDU) cards for multiplexing performance.</li> <li>• Emphasize the importance of providing express channels in transmission cards for proper pass-through of other channels.</li> <li>• Examine client’s small form-factor pluggable (SFPs) as per requirements.</li> <li>• Explain Plesiochronous Digital Hierarchy (PDH), SDH, Virtual Concatenation Group (VCG) circuit types.</li> <li>• Discuss the test results to find faults and provide resolutions.</li> <li>• List the basic requirements for the protected circuit such as protected class of service menu, etc.</li> <li>• Examine the protected circuit and filter them as per the guidelines.</li> <li>• Elaborate how to analyse the status of the circuit and activate them as per the</li> </ul>	<ul style="list-style-type: none"> <li>• Perform steps for provisioning and system support using node view.</li> <li>• Prepare a sample design of a network hierarchy, mapped to network view of Network Management System (NMS) and Element Management System (EMS).</li> <li>• Demonstrate how to install, configure and connect NMS server and client software/switch.</li> <li>• Demonstrate how to use spectrometer for checking gains as per requirements.</li> <li>• Perform steps to configure channels based on the applications of Reconfigurable Optical Add-Drop Multiplexer (ROADM).</li> <li>• Employ proper technique to configure NMS GUI to check its connectivity and layout using topology view.</li> <li>• Perform steps to configure, label and verify nodes and unprotected circuits.</li> <li>• Perform necessary steps to configure NMS as per the instructions specified in the reference guide.</li> <li>• Demonstrate how to connect the links between Ethernet and Layer 2 devices and also analyse the traffic flow between the two devices.</li> <li>• Perform steps to measure parameters such as Quality-of-service (QoS), Administration and Maintenance (OAM).</li> <li>• Employ proper technique to configure per hop behaviour and traffic conditioning profiles.</li> <li>• Demonstrate how to identify, deactivate/delete circuit from NMS and verify the same.</li> <li>• Record and update all the circuits and NMS records so that they are available at the time of inspection.</li> </ul>



instructions.

- Describe different services such as point-to-point and point-to-multipoint services.
- Explain how to use Ethernet services from the NMS GUI.
- Discuss how to inform concerned parties about circuit provisioning, activation, deactivation or any other task related to circuits.
- Explore the various risks and impact of not following defined work instructions/procedures.
- Outline the reporting structure of incidents, trouble or emergencies such as system failures, etc.
- Explain the basic network management concepts, elements such as OSI architecture, LAN-MAN-WAN-VLAN, TCP/IP, IP addressing, etc.
- Expound the various applications of NMS and configuration of server and client.
- Explain PDH, SDH technology, mapping and multiplexing technology of SDH, ROADM and cross-connects.
- Describe basic equipment design and application of network system, optical fiber transmission.
- Outline TMF814 Multi-Technology Network Management (MTNM) Solution Set standards.
- Discuss the functions of attenuators, test equipment, line tester, Ethernet tester, VSWR meter, RF power, etc.
- Describe mapping and multiplexing technology of DWDM.
- Discuss Ethernet networking, Ethernet media, Ethernet-over-SDH technology and connector requirement.
- Explain core, distribution and access layer architecture.
- Describe the basics of L2 switching technologies.
- Discuss different WAN protocols.
- List login cables for different site equipment.
- State common security aspects and lowest security levels of the components of the network.
- Explain the working of different management frameworks in the NOC.

- Demonstrate use of LINUX, MYSQL and simple Java commands.
- Perform steps how to configure switches inside a network element.

**Classroom Aids:**

Whiteboard and markers, chart paper and sketch pens, LCD Projector and Laptop for presentations

**Tools, Equipment and Other Requirements**

Reference guide, manuals, user guides, login cables, report formats, NMS GUI, enterprise website or manufacturer's technical documentation, computers, hard drives, printers, phone systems, gateways, routers, network bridges, modems, wireless access points, networking cables, line drivers, switches, hubs, and repeaters

## Module 3: Monitoring and Reporting the Status of SDH, DWDM and L2 Equipment Mapped to TEL/N6309 v1.0

### Terminal Outcomes:

- Implement and support monitoring activities
- Resolve monitoring problems
- Discuss how to generate, review and analyse reports

<b>Duration: 50:00</b>	<b>Duration: 80:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the required hardware and software for launching Network Management system.</li> <li>• Explain the relevant links in NMS window for monitoring and reporting activities.</li> <li>• Discuss the steps to verify the network topology for connectivity of network elements.</li> <li>• Explain how to locate any deviation in NMS and record them in specified format.</li> <li>• Discuss how to locate root cause, provide solution to an issue within scope and escalate ones beyond scope for monitoring.</li> <li>• Discuss the queries from network team.</li> <li>• Describe the process to identify typical reports like circuit provisioning report, Dynamic Circuit Network (DCN) report and other customised reports.</li> <li>• Explain the limitations of generated reports and take corrective action.</li> <li>• Discuss the factors for potential bottlenecks after analysing reports.</li> <li>• Discuss the importance and types of documentation in organization.</li> <li>• List the records to be maintained and implication of non-maintenance.</li> <li>• Explain the application scenario of NMS, architecture and configuration of server and client.</li> <li>• Describe the alarm severity along with managing and filtering of alarms.</li> <li>• Discuss the concepts of cross-connects and fiber transmissions.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform proper steps using the provided login credentials of NMS for monitoring network alarms.</li> <li>• Demonstrate how to monitor the status of Synchronisation Clock source and record performance management parameters in network elements.</li> <li>• Perform steps to identify and monitor critical parameters for network health.</li> <li>• Prepare a format to record monitoring activities.</li> <li>• Demonstrate how to generate individual as well as bulk reports according to the requirements.</li> <li>• Conduct the review of generated reports to verify correct network parameters recording.</li> <li>• Employ proper techniques for notifying authorities and sending generated reports.</li> </ul>

- List the various formats in which the report needs to be generated like PDF, XML, HTML, DOC.
- Explain the Operating System (OS) such as Windows and Linux/Unix, network management system server and client.

**Classroom Aids:**

Whiteboard and markers, chart paper and sketch pens, LCD Projector and Laptop for presentations

**Tools, Equipment and Other Requirements**

Network Management System (NMS), user manual, different report formats, Automated network discovery, real time monitoring and alerting, powerful diagnostics, Enhanced network security, Configuration and log management

## Module 4: Plan Work Effectively, Optimise Resources and Implement Safety Practices Mapped to TEL/N9101 v1.0

### Terminal Outcomes:

- Explain how to plan work effectively, implement safety practices and optimise use of resources.

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the recent skills and technologies prevalent in the telecom industry.</li> <li>• Discuss the commonly occurring problems with their causes and solutions.</li> <li>• State the importance of keeping the workplace clean, safe and tidy.</li> <li>• List different types of hazards and the procedure to report it to the supervisor.</li> <li>• List the precautionary steps one needs to follow while handling hazardous materials.</li> <li>• State the importance of participating in fire drills and other safety workshops.</li> <li>• Discuss the significance of conforming to basic hygiene practices such as washing hands, using alcohol-based hand sanitizers.</li> <li>• List the different methods of cleaning, disinfection, sanitization, etc.</li> <li>• Discuss the importance of self-quarantine or self-isolation.</li> <li>• Explain the path of disease transmission.</li> <li>• Discuss organizational hygiene and sanitation guidelines and ways of reporting breaches/gaps, if any.</li> <li>• Explain the ways to optimize usage of resources.</li> <li>• Discuss various methods of waste management and disposal.</li> <li>• List the different categories of waste for the purpose of segregation.</li> <li>• Differentiate between recyclable and non-recyclable waste.</li> <li>• State the importance of using appropriate color dustbins for different types of waste.</li> <li>• Discuss the common sources of pollution and ways to minimize it.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a time schedule to complete the tasks on the given time.</li> <li>• Demonstrate the use of safety equipment such as goggles, gloves, ear plugs, shoes, etc.</li> <li>• Demonstrate the correct postures while working and handling hazardous materials at the workplace.</li> <li>• Demonstrate how to evacuate the workplace in case of an emergency.</li> <li>• Show how to sanitize and disinfect one's work area regularly.</li> <li>• Demonstrate the correct way of washing hands using soap and water.</li> <li>• Demonstrate the correct way of sanitizing hands using alcohol-based hand rubs.</li> <li>• Display the correct way of wearing and removing PPE such as face masks, hand gloves, face shields, PPE suits, etc.</li> <li>• Demonstrate warning labels, symbols and other related signages.</li> <li>• Perform basic checks to identify any spills and leaks and that need to be plugged /Stopped.</li> <li>• Demonstrate different disposal techniques depending upon different types of waste.</li> <li>• Employ different ways to clean and check if equipment/machines are functioning as per requirements and report malfunctioning, if observed.</li> <li>• Demonstrate ways for efficient utilization of material and water.</li> </ul>
<b>Classroom Aids</b>	
White board/ black board marker / chalk, Duster, Computer or Laptop attached to LCD projector	

## Tools, Equipment and Other Requirements

Personal Protection Equipment: Safety glasses, Head protection, Rubber gloves, Safety footwear, Warning signs and tapes, Fire

## Module 5: Communication and Interpersonal skills

### Mapped to TEL/N9102 v1.0

#### Terminal Outcomes:

- Discuss how to communicate effectively and develop interpersonal skills
- Explain the importance of developing sensitivity towards differently abled people

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the importance of following the standard operating procedures of the company w.r.t priority, confidentiality and security.</li> <li>• Explain the standard procedure of communication and escalations of issues at the workplace.</li> <li>• Discuss the importance of timely rectification of issues.</li> <li>• State the importance of coordinating and resolving conflicts with the team members to achieve smooth workflow.</li> <li>• Discuss about the different types of disabilities with their respective issues.</li> <li>• List health and safety requirements for persons with disability.</li> <li>• Describe the rights, duties and benefits available at workplace for person with disability.</li> <li>• Explain the process of recruiting people with disability for a specific job.</li> <li>• Discuss the specific ways to help people with disability to overcome the challenges.</li> </ul>	<ul style="list-style-type: none"> <li>• Use different modes of communication as per requirement and need.</li> <li>• Prepare a sample report of the commonly occurring errors and their solutions.</li> <li>• Demonstrate the use of gender and PwD (Person with Disability) inclusive language.</li> <li>• Prepare a list of institutes and government schemes that help PwD in overcoming challenges.</li> <li>• Demonstrate the ideal behaviour with a PwD in an organization.</li> </ul>
<b>Classroom Aids</b>	
Whiteboard and Markers, Chart paper and sketch pens, LCD Projector and Laptop for presentations	
<b>Tools, Equipment and Other Requirements</b>	
Sample of escalation matrix, organisation structure	

## Module 6: On-the-Job Training

### Mapped to Active Network Management Associate

<b>Mandatory Duration:</b> 120:00	<b>Recommended Duration:</b> 00:00
<b>Location: On-Site</b>	
<b>Terminal Outcomes</b>	
<ol style="list-style-type: none"> <li>1. Provision the system.</li> <li>2. Create a sample design of the network hierarchy, mapped to network view of Network Management System (NMS) and Element Management System (EMS).</li> <li>3. Install, configure and connect NMS server and client software/switch.</li> <li>4. Use spectrometer for checking gains as per specifications &amp; requirements.</li> <li>5. Configure channels based on the applications of Reconfigurable Optical Add-Drop Multiplexer (ROADM).</li> <li>6. Configure NMS GUI to check its connectivity and layout using topology view.</li> <li>7. Configure, label and verify nodes and unprotected circuits.</li> <li>8. Configure NMS as per the instructions specified in the reference guide.</li> <li>9. Connect the links and measure parameters such as Quality-of-service (QoS), Administration and Maintenance (OAM).</li> <li>10. Use of LINUX, MYSQL and simple Java commands.</li> <li>11. Configure switches inside a network element.</li> <li>12. Monitor the status of Synchronisation Clock source and record performance management parameters in network elements.</li> <li>13. Monitor critical parameters for network health.</li> <li>14. Create specific and bulk reports and conduct the review of generated reports</li> <li>15. Ensure that reports generated are sent to authorized personnel.</li> </ol>	



## Module 7: DGT/VSQ/N0102 Employability Skills (60 hours)

### Mapped to Active Network Management Associate

Mandatory Duration: 60:00			
Location: On-Site			
S.No.	Module Name	Key Learning Outcomes	Duration (hours)
1.	Introduction to Employability Skills	<ul style="list-style-type: none"> <li>Discuss the Employability Skills required for jobs in various industries.</li> <li>List different learning and employability related GOI and private portals and their usage.</li> </ul>	1.5
2.	Constitutional values - Citizenship	<ul style="list-style-type: none"> <li>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.</li> <li>Show how to practice different environmentally sustainable practices.</li> </ul>	1.5
3.	Becoming a Professional in the 21st Century	<ul style="list-style-type: none"> <li>Discuss importance of relevant 21st century skills.</li> <li>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.</li> <li>Describe the benefits of continuous learning.</li> </ul>	2.5
4.	Basic English Skills	<ul style="list-style-type: none"> <li>Show how to use basic English sentences for every day conversation in different contexts, in person and over the telephone.</li> <li>Read and interpret text written in basic English</li> <li>Write a short note/paragraph / letter/e -mail using basic English.</li> </ul>	10
5.	Career Development & Goal Setting	<ul style="list-style-type: none"> <li>Create a career development plan with well-defined short- and long-term goals.</li> </ul>	2
6.	Communication Skills	<ul style="list-style-type: none"> <li>Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.</li> <li>Explain the importance of active listening for effective communication.</li> <li>Discuss the significance of working collaboratively with others in a team.</li> </ul>	5
7.	Diversity & Inclusion	<ul style="list-style-type: none"> <li>Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD.</li> <li>Discuss the significance of escalating sexual harassment issues as per POSH act.</li> </ul>	2.5
8.	Financial and Legal Literacy	<ul style="list-style-type: none"> <li>Outline the importance of selecting the right financial institution, product, and service.</li> <li>Demonstrate how to carry out offline and online financial transactions, safely and securely.</li> <li>List the common components of salary and compute income, expenditure, taxes, investments etc.</li> <li>Discuss the legal rights, laws, and aids.</li> </ul>	5
9.	Essential Digital	<ul style="list-style-type: none"> <li>Describe the role of digital technology in today's life.</li> </ul>	10

	Skills	<ul style="list-style-type: none"> <li>• Demonstrate how to operate digital devices and use the associated applications and features, safely and securely.</li> <li>• Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely.</li> <li>• Create sample word documents, excel sheets and presentations using basic features.</li> <li>• Utilize virtual collaboration tools to work effectively.</li> </ul>	
10.	Entrepreneurship	<ul style="list-style-type: none"> <li>• Explain the types of entrepreneurship and enterprises.</li> <li>• Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan.</li> <li>• Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement.</li> <li>• Create a sample business plan, for the selected business opportunity.</li> </ul>	7
11	Customer Service	<ul style="list-style-type: none"> <li>• Describe the significance of analyzing different types and needs of customers.</li> <li>• Explain the significance of identifying customer needs and responding to them in a professional manner.</li> <li>• Discuss the significance of maintaining hygiene and dressing appropriately.</li> </ul>	5
12	Getting Ready for Apprenticeship & Jobs	<ul style="list-style-type: none"> <li>• Create a professional Curriculum Vitae (CV).</li> <li>• Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively.</li> <li>• Discuss the significance of maintaining hygiene and confidence during an interview.</li> <li>• Perform a mock interview.</li> <li>• List the steps for searching and registering for apprenticeship opportunities.</li> </ul>	8

**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.*

# Annexure

## Trainer Requirements (Active Network Management Associate)

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate	Science/Electronics/ Telecom/IT and other relevant field	1	Network Management	0	NA	Eligible for ToT Program

Trainer Certification	
Domain Certification	Platform Certification
Job Role: “Active Network Management Associate” “NSQF Level 4” “TEL/Q6302 v3.0”, Minimum accepted score is 80%	Job Role: “Trainer (VET and Skills)”, “MEP/Q2601” v2.0, Minimum accepted score is 80%

## Assessor Requirements (Active Network Management Associate)

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate	Science/Electronics/ Telecom/IT and other relevant field	1	Network Management	0	NA	Eligible for ToA Program

Assessor Certification	
Domain Certification	Platform Certification
Job Role: “Active Network Management Associate” “NSQF Level 4” “TEL/Q6302 v3.0”, Minimum accepted score is 80%	Job Role: “Assessor (VET and Skills)”, “MEP/Q2701” v2.0, Minimum accepted score is 80%

## 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: <ul style="list-style-type: none"> <li>• have good communication skills</li> <li>• be well versed in English</li> <li>• have digital skills</li> <li>• have attention to detail</li> <li>• be adaptable</li> <li>• have willingness to learn</li> </ul>
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)					

Trainer Certification	
Domain Certification	Platform Certification
Certified in 60-hour Employability NOS (2022), with a minimum score of 80% OR Certified in 120-, 90-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 Master trainer should: <ul style="list-style-type: none"> <li>• have good communication skills</li> <li>• be well versed in English</li> <li>• have basic digital skills</li> </ul>
Certified Master Trainer	Qualification Pack: Master Trainer (MEP/Q2602)			3	EEE training of Management SSC (MEPSC) (155 hours)	<ul style="list-style-type: none"> <li>• have attention to detail</li> <li>• be adaptable</li> <li>• have willingness to learn</li> <li>• be able to grasp concepts fast and is creative with teaching practices and likes sharing back their learning with others</li> </ul>

Master Trainer Certification	
Domain Certification	Platform Certification
Certified in 60-hour Employability NOS (2022), with a minimum score of <b>90%</b> .  <b>OR</b> Certified in 120-, 90-hour Employability NOS (2022), with a minimum score of <b>90%</b>	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
  - 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
  - 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

### 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
<b>Declarative Knowledge</b>	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.
<b>Key Learning Outcome</b>	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).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training.</b>
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module.</b> A set of terminal outcomes help to achieve the training outcome.



## Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
SOP	Standard Operating Procedures
CRM	Customer Relationship Management
AT	Acceptance Test
DG	Diesel Generator
PIU	Power Interface Unit
SMPS	Switch Mode Power Supply
FTP	File Transfer Protocol
BSC	Base Station Controller
AMF	Auto Man Failure
PPE	Personal Protective Equipment
FM	Field Maintenance
PwD	Persons with Disabilities
EB	Electricity Board
MCB	Miniature Circuit Breaker
NOC	Network Operating Centre
SLA	Service Level Agreement
PM	Preventive Maintenance
CM	Corrective Maintenance
TRX	Transceiver
NMS	Network Monitoring System
MOP	Maintenance Operation Protocol
ES	Employability Skills