







QP Name: Network System Associate

QP Code: TEL/Q6208

QP Version: 3.0

NSQF Level: 4

Model Curriculum Version: 1.0

Telecom Sector Skill Council (TSSC), Estel House, 3rd Floor, Plot No: - 126, Sector 44 Gurugram, Haryana 122003







Table of Contents

Training Parameters	2
Program Overview	3
Training Outcomes	3
Compulsory Modules	3
Module Details	5
Module 1: Role and Responsibilities of a Network System Associate	5
Module 2: Set up Network Infrastructure	6
Module 3: Implement Network and Data Security	8
Module 4: Perform Preventive and Corrective Maintenance at Radio Locations	9
Module 6: Organize Work and Resources as per Health and Safety Standards	11
Module 7: Communication and Interpersonal Skills	13
Module 8: On-the-Job Training	16
Module 9: DGT/VSQ/N0102 Employability Skills (60 hours)	17
ANNEXURE	18
Trainer Requirements	18
Assessor Requirements	19
Assessment Strategy	22
References	23
Glossary	23
Acronyms and Abbreviations	24







Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7422.0205
Minimum Educational Qualification & Experience	OR Completed 2nd year of 3-year diploma (after 10th) OR Pursuing 2nd year of 3-year regular Diploma (after 10th) OR 10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent OR 8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS OR 10th grade pass and pursuing continuous schooling With No Experience required OR Previous relevant Qualification of NSQF Level 3.0 with 3-year relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	27/01/2022
Next Review Date	27/01/2025
NSQC Approval Date	27/01/2022
QP Version	3.0
Model Curriculum Creation Date	27/01/2022
Model Curriculum Valid Up to Date	27/01/2025
Model Curriculum Version	1.0
Minimum Duration of the Course	540 Hours, 0 Minutes

Maximum Duration of the Course	540 Hours, 0 Minutes

2 | Network System Associate







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.

- Employ appropriate techniques for testing and performance evaluation.
- Perform necessary steps to assess network vulnerability and maintain required records
- Demonstrate how to implement network security measures.
- Perform preventive and corrective maintenance operations.
- Organize work and resources as per health and safety standards.
- Inclusive communication, interpersonal skills, and sensitization towards gender and persons with disability.

Compulsory Modules

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

NOS and Module Details	Theory Durati on	Practic al Durati on	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	20:00	10:00	00:00	00:00	30:00
Module 1: Role and Responsibilities of a Network System Associate	20:00	10:00	00:00	00:00	30:00
TEL/N6231 – Establish Network Infrastructure NOS Version No. 2.0 NSQF Level 4	50:00	60:00	40:00	00:00	150:00
Module 2: Set up Network Infrastructure	50:00	60:00	40:00	00:00	150:00
TEL/N6230 – Implement Network and Data Security NOS Version No. 2.0 NSQF Level 4	30:00	50:00	40:00	00:00	120:00
Module 3: Implement Network and Data Security	30:00	50:00	40:00	00:00	120:00
TEL/N6232 - Perform Preventive and Corrective Maintenance NOS Version No. 2.0 NSQF Level 4	30:00	50:00	40:00	00:00	120:00







Module 4: Perform Preventive and Corrective Maintenance	30:00	50:00	40:00	00:00	120:00
TEL/N9101 – Organize work and resources as per health and safety standards NOS Version No. 1.0 NSQF Level 4	10:00	20:00	00:00	00:00	30:00
Module 5: Plan Work Effectively, Optimise Resources and Implement Safety Practices	10:00	20:00	00:00	00:00	30:00
TEL/N9102 – Interact effectively with team members and customers NOS Version No. 1.0 NSQF Level 4	10:00	20:00	00:00	00:00	30:00
Module 6: Communication and interpersonal skills	10:00	20:00	00:00	00:00	30:00
DGT/VSQ/N0102 Employability Skills (60 Hours) Total Duration	60:00 210:00	00:00 210:00	00:00 120:00	00:00 00:00	60:00 540:00







Module Details

Module 1: Role and Responsibilities of a Network System Associate *Bridge Module*

Terminal Outcomes:

• Explain the scope of work for a Network System Associate.

Duration: 20:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
Describe the various electrical and electronic components.	Show how to use routing and switching equipment etc.
 Prepare a list of the standard operating procedures (SOP) to be followed for use of tools and equipment and for performing service and minor repairs. 	 Show the use of tools and equipment required for setting up the network infrastructure and performing maintenance.
 Discuss the documentation involved in the different processes of maintenance. 	Demonstrate the functionality of different network devices, Local Area Network
 Discuss the safety, health and environmental policies and regulations for the workplace as well as for telecom sites in general. 	(LAN), virtual local area network (VLAN) and various protocols.

Classroom Aids:

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

Tools, Equipment and Other Requirements

PCs/Laptops, documents of standard operating procedures, code of conduct, checklists, schedules, tools and equipment, status report







Module 2: Set up Network Infrastructure Mapped to TEL/N6231 v1.0

Terminal Outcomes:

- Explain how to prepare for installation.
- Demonstrate how to set up network infrastructure.
- Perform testing and performance evaluation.
- Discuss how to maintain required records.

biseass now to maintain required records.		
Duration: 50:00	Duration: 60:00	
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes	
 Explain the functioning of various components and devices required to set up a network infrastructure. 	 Demonstrate the working of network components and devices such as switches, routers and bridges. 	
 Discuss the different types of networks such as local area network (LAN), wide area 	 Demonstrate how to configure and route switching equipment. 	
network (WAN) and virtual local area network (VLAN), their features and limitations.	 Collect work instructions from the supervisor based on customer requirements. 	
 Explain the different types of networks routing protocol such as Transmission Control Protocol/ Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Telnet etc. 	 Employ appropriate techniques to estimate the requirement of nodes, operating systems, internet connectivity pattern, applications and communication protocol for installing network. 	
 Describe Internet protocols (IP) addressing format, such as IPV4 & IPV6. 	Apply basic techniques to procure components and accessories.	
Explain the process of assessing the requirements of nodes, operating systems, internet connectivity pattern, applications.	Design a sample prototype of a network based on the requirements.	
internet connectivity pattern, applications and communication protocol for network infrastructure.	 Calculate the total cost of setting up the network infrastructure. 	
 Outline the pre-installation tasks that need to be performed prior to installation, such as planning the space requirement for 	 Demonstrate using tools, equipment and accessories required for installation as per standard operating procedures. 	
devices, procuring components, etc.Discuss how to design a prototype of the	Employ appropriate techniques to test the devices and components to ensure that they are in proper working condition.	
 network based on the requirement. List the tools, equipment, and accessories required for installation of network. 	 Install local area network (LAN), wide area network (WAN), network segments, Internet, and intranet systems. 	
 Explain the methods to test the working of network devices and components. 	Employ appropriate techniques to configure network hardware, switches,	
 Outline the steps of installing and configuring local area network (LAN), wide area network (WAN), network segments, Internet, and intranet systems. 	routers, bridges, devices, and interfaces.Apply appropriate techniques to configure access-list.	
internet, and intranet systems.	Demonstrate how to install and configure	

network software including operating







- List the steps of installing network software including operating systems, firewalls, monitoring and management tools.
- Explain the methods to configure routing and switching equipment such as switches, routers, bridges.
- Explain the process of ensuring inter/intra network connectivity throughout the LAN/WAN infrastructure.
- Explain how to provide remote troubleshooting support.
- Describe the steps involved in creating basic operating procedures.
- Discuss how to test the load on network/LAN/WAN devices under full capacity for switching/routing loops.
- Explain the process of escalating unresolved issues/delays/ malfunctions to the concerned persons.
- Describe the different types of Network Management Systems (NMS).
- Discuss the process of evaluate functioning of the network management system (NMS).
- List the types of documents and reports to be maintained.

- systems, firewalls, monitoring and management tools.
- Employ appropriate techniques to test network connectivity throughout the LAN/WAN infrastructure, both inter/intra department.
- Implement the process to provide support to onsite engineers and users at the time of installation.
- Apply appropriate techniques to create basic operating procedures.
- Demonstrate how to test the load on network/LAN/WAN devices under full capacity for switching/routing loops.
- Employ appropriate techniques troubleshoot common LAN issues.
- Apply appropriate techniques to evaluate functioning of the network management system (NMS).
- Maintain sample records consisting of network details, summary of NMS results and reports.
- Perform the handover after obtaining the necessary signoff of the implementation of the network infrastructure.

Classroom Aids:

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

Tools, Equipment and Other Requirements

Network components and devices such as switches, routers and bridges, tools, equipment and accessories required for installation, computers with network software including operating systems, firewalls, monitoring and management tools, network management system (NMS)







Module 3: Implement Network and Data Security *Mapped to TEL/N6230 v1.0*

Terminal Outcomes:

- Assess network vulnerability.
- Implement network security measures.
- Explain how to maintain documentation.

Theory – Key Learning Outcomes • Describe the functioning of different types of vulnerability assessment tools used to evaluate network and verify system security. • Explain the methods to perform network/host-based intrusion detection and risk assessment. • Discuss how to monitor the software components to assess network vulnerability. • Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. • Outline the various security policies and procedures to remove threats and vulnerabilities. • Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. • Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Duration: 50:00 Practical – Key Learning Outcomes • Demonstrate how to use various vulnerability assessment tools. • Perform network/host-based intrusion detection and risk assessment. • Employ appropriate techniques to identify issues in network security. • Employ appropriate techniques to procedures and policies pertaining to security. • Employ appropriate techniques to procedures and policies pertaining to security. • Employ appropriate techniques to procedures and policies pertaining to security. • Demonstrate how to monitor the software components. • Apply basic troubleshooting techniques to identify issues in network security. • Employ appropriate techniques to procedures and policies pertaining to security. • Demonstrate how to set up firewalls and identifying anomalies. • Demonstrate how to monitor the software components. • Employ appropriate techniques to procedures to verify file integrity to monitor software components. • Employ appropriate techniques to procedures to verify file integrity to monitor software components. • Employ appropriate techniques to security. • Employ appropriate techniques to security. • Employ appropriate		
 Describe the functioning of different types of vulnerability assessment tools used to evaluate network and verify system security. Explain the methods to perform network/host-based intrusion detection and risk assessment. Discuss how to monitor the software components to assess network vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Demonstrate how to use various vulnerability assessment tools. Perform network/host-based intrusion detection and risk assessment. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to use various vulnerability assessment tools. Perform network/host-based intrusion detection and risk assessment. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to use various vulnerability scanners to verify file integrity to monitor software components. Memploy appropriate techniques to procedures and policies pertaining to security. Demonstrate how to use various vulnerability assessment. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to use various vulnerability assessment. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to procedures	Duration: 30:00	Duration: 50:00
 of vulnerability assessment tools used to evaluate network and verify system security. Explain the methods to perform network/host-based intrusion detection and risk assessment. Discuss how to monitor the software components to assess network vulnerability. Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. vulnerability assessment tools. Perform network/host-based intrusion detection and risk assessment. Employ appropriate techniques to verify file integrity to monitor software components. Apply basic troubleshooting techniques to identify issues in network security. Use vulnerability scanners to verify system security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to summarize the network security. Employ appropriate techniques to procedures and policies p	Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
 Explain the methods to perform network/host-based intrusion detection and risk assessment. Discuss how to monitor the software components to assess network vulnerability. Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Employ appropriate techniques to verify file integrity to monitor software components. Employ appropriate techniques to verify file integrity to monitor software components. Apply basic troubleshooting techniques to identify issues in network security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to procedures and policies pertaining to security. 		
network/host-based intrusion detection and risk assessment. Discuss how to monitor the software components to assess network vulnerability. Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Demonstrate how to monitor software components. Diseuss in network security. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to identify issues in network security. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to procedures and policies pertaining to security. Employ appropriate techniques to identify issues in network security. Employ appropriate techniques to identify issues in network security.		·
 Components to assess network vulnerability. Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Apphy basic troublesmotoring techniques to identify issues in network security. Use vulnerability scanners to verify system security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to security. Maintain the documents related to security breaches of the network infrastructure. 	network/host-based intrusion detection	file integrity to monitor software
 Explain the different types of vulnerabilities and security threats to network and the corresponding course of action to the identified issues. Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Use vulnerability scanners to verify system security. Employ appropriate techniques to procedures and policies pertaining to security. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to summarize the results of vulnerability and penetration tests. Maintain the documents related to security breaches of the network infrastructure. 	components to assess network	, , , ,
 Outline the various security policies and procedures to remove threats and vulnerabilities. Discuss how to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Demonstrate how to monitor the access control of users. Demonstrate how to set up firewall. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to summarize the results of vulnerability and penetration tests. Maintain the documents related to security breaches of the network infrastructure. 	 Explain the different types of vulnerabilities and security threats to network and the corresponding course of 	security.Employ appropriate techniques to procedures and policies pertaining to
 Discuss now to implement security procedures by monitoring user access to network, setting up firewalls and identifying anomalies. Discuss the importance of maintaining all documents related to security breaches, results of vulnerability tests and the counter measures adopted. Perform remediation for identified anomalies in the network security. Employ appropriate techniques to summarize the results of vulnerability and penetration tests. Maintain the documents related to security breaches of the network infrastructure. 	procedures to remove threats and	Demonstrate how to monitor the access
documents related to security breaches, results of vulnerability tests and the counter measures adopted. penetration tests. • Maintain the documents related to security breaches of the network infrastructure.	procedures by monitoring user access to network, setting up firewalls and	Perform remediation for identified anomalies in the network security.
Classroom Aids:	documents related to security breaches, results of vulnerability tests and the	penetration tests. • Maintain the documents related to security
	Classroom Aids:	

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

Tools, Equipment and Other Requirements

Network components and devices such as switches, routers and bridges, tools, equipment and accessories required for installation, computers with network software including operating systems, firewalls, monitoring and management tools, network management system (NMS)







Module 4: Perform Preventive and Corrective Maintenance *Mapped to TEL/N6232 v1.0*

Terminal Outcomes:

- Perform preventive maintenance.
- Perform corrective maintenance.

Duration: 30:00	Duration : <i>50:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
Outline work requirement based on the maintenance schedule/checklist received	 Employ appropriate techniques to carry out inspection of network devices.
from the supervisor. • List the use and functionality of various	 Demonstrate how to use various testing and diagnostic tools.
testing and diagnostic tools.Discuss the process of carrying out inspection of network devices and	 Demonstrate how to use NMS to evaluate the performance of network infrastructure services.
reporting faults.Explain how to use NMS to evaluate the performance of network infrastructure	 Perform steps for hardware upgradation process to remove obsolete/faulty components.
services.Describe the spare management process to remove obsolete/faulty components.	 Apply appropriate maintenance techniques to maintain network facilities in individual machines.
 Explain the process of maintaining network facilities in individual machines. 	 Perform steps to maintain the different types of network servers.
 Discuss how to maintain the different types of network servers such as file servers, 	 Demonstrate how to troubleshoot and rectify network service level issues.
Virtual Private Network (VPN) gateways and intrusion detection system.	Perform steps to divert network traffic to backup link if primary link goes down.
 Explain the process for obtaining sign-off from all concerned parties after the completion of the preventive maintenance 	 Perform steps to test the network after rectification is done.
activities.	Obtain sign-off from all concerned parties often the completion of the maintenance
 Outline the process of troubleshooting and rectifying network service level issues. 	after the completion of the maintenance activities.Maintain the documents for maintenance
 Explain the steps of diverting network traffic to backup link if primary link goes down. 	 Maintain the documents for maintenance work done on the network infrastructure.
 Describe how to handle vulnerabilities and security threats to the network services. 	
 Outline the steps for testing the network after rectification is done. 	
 Discuss the importance of maintaining all maintenance related documents. 	

Classroom Aids:

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







Tools, Equipment and Other Requirements

Network cables, electrical wires, alarms, indicators, tools and equipment, AC, DG, PIU, SMPS and battery bank, Auto Man Failure (AMF) panel, USB, alarm panel, tools like pliers, power drill, screwdrivers, spanner, measurement tools, like multi-meter and thermometer, diagnostic tools etc.







Module 6: Plan Work Effectively, Optimise Resources and Implement Safety Practices

Mapped to TEL/N9101 v 1.0

Terminal Outcomes:

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

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
 List the recent skills and technologies prevalent in the telecom industry. Discuss the commonly occurring problems with their causes and solutions. State the importance of keeping the workplace clean, safe and tidy. List different types of hazards and the procedure to report it to the supervisor. 	 Prepare a time schedule to complete the tasks on the given time. Demonstrate the use of safety equipment such as goggles, gloves, ear plugs, shoes, etc. Demonstrate the correct postures while working and handling hazardous materials at the workplace.
 List the precautionary steps one needs to follow while handling hazardous materials. 	Demonstrate how to evacuate the workplace in case of an emergency.
 State the importance of participating in fire drills and other safety workshops. Discuss the significance of conforming to 	Show how to sanitize and disinfect one's work area regularly.
basic hygiene practices such as washing hands, using alcohol-based hand sanitizers.	Demonstrate the correct way of washing hands using soap and water.
 List the different methods of cleaning, disinfection, sanitization, etc 	Demonstrate the correct way of sanitizing hands using alcohol-based hand rubs.
 Discuss the importance of self-quarantine or self-isolation. 	Display the correct way of wearing and removing PPE such as face masks, hand
• Explain the path of disease transmission.	gloves, face shields, PPE suits, etc.
 Discuss organizational hygiene and sanitation guidelines and ways of reporting 	Demonstrate warning labels, symbols and other related signages.
breaches/gaps, if any.Explain the ways to optimize usage of resources.	Perform basic checks to identify any spills and leaks and that need to be plugged /Stopped.
 Discuss various methods of waste management and disposal. 	Demonstrate different disposal techniques depending upon different types of waste.
 List the different categories of waste for the purpose of segregation. Differentiate between recyclable and non- 	Employ different ways to clean and check if equipment/machines are functioning as per requirements and report malfunctioning, if
recyclable waste.	observed.Demonstrate ways for efficient utilization
 State the importance of using appropriate color dustbins for different types of waste. 	of material and water.
 Discuss the common sources of pollution 	

and ways to minimize it.







Classroom Aids

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 extinguisher and First aid kit







Module 7: Communication and interpersonal skills $Mapped\ to\ TEL/N9102\ v\ 1.0$

Tools, Equipment and Other Requirements

Sample of escalation matrix, organisation structure

Terminal Outcomes:

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

ion: 10:00	Duration: 20:00
y – Key Learning Outcomes	Practical – Key Learning Outcomes
Discuss the importance of following the standard operating procedures of	 Use different modes of communication as per requirement and need.
the company w.r.t priority, confidentiality and security.	 Prepare a sample report of the commonly occurring errors and their solutions.
Explain the standard procedure of communication and escalations of	 Demonstrate the use of gender and PwD (Person with Disability) inclusive language
issues at the workplace. Discuss the importance of timely rectification of issues.	 Prepare a list of institutes and government schemes that help PwD in overcoming challenges.
State the importance of coordinating and resolving conflicts with the team members to achieve smooth workflow.	 Demonstrate the ideal behaviour with a PwD in an organization.
Discuss about the different types of disabilities with their respective issues.	
List health and safety requirements for persons with disability.	
Describe the rights, duties and benefits available at workplace for person with disability.	
Explain the process of recruiting people with disability for a specific job.	!
Discuss the specific ways to help people with disability to overcome the challenges.	
oom Aids	
people with disability to overcome the challenges.	ch pens, LCD Projecto







Module 8: On-the-Job Training Mapped to Network System Associate

Mandatory Duration: 120:00 Recommended Duration: 00:00

Location: On-Site

Terminal Outcomes

- 1. Test the working of network components and devices
- 2. Configure switching equipment.
- 3. Assess the requirement of nodes, operating systems, internet connectivity pattern, applications etc.
- 4. Obtain components and accessories.
- 5. Create a sample prototype of a network based on the requirements.
- 6. Estimate the total cost of setting up the network infrastructure.
- 7. Use and maintain tools, equipment and accessories required for installation.
- 8. Test and verify the functioning OS devices and component.
- 9. Install local area network (LAN), wide area network (WAN), network segments, Internet, and intranet systems.
- 10. Configure network hardware, switches, routers, bridges, devices and interfaces as well as the access-list.
- 11. Install and configure network software including operating systems, firewalls, monitoring and management tools.
- 12. Verify network connectivity throughout the LAN/WAN infrastructure, both inter/intra department.
- 13. Support onsite engineers and users at the time of installation.
- 14. Test the load on network/LAN/WAN devices under full capacity for switching/routing loops.
- 15. Troubleshoot common LAN issues.
- 16. Assess functioning of the network management system (NMS).
- 17. Maintain sample records consisting of network details.
- 18. Perform network/host-based intrusion detection and risk assessment.
- 19. Test file integrity to monitor software components.
- 20. Use vulnerability scanners to verify system security.
- 21. Monitor the access control of users.
- 22. Set up firewall.
- 23. Record the results of vulnerability and penetration tests.
- 24. Conduct inspection of network devices.
- 25. Conduct hardware upgradation to remove obsolete/faulty components.
- 26. Maintain the different types of network servers.
- 27. Troubleshoot and rectify network service level issues and test after rectification.







Module 9: DGT/VSQ/N0102 Employability Skills (60 hours)

Mapped to Network System Associate

Loca	tion: On-Site		
S.N o.	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
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
3.	Becoming a Professional in the 21st Century	 Discuss importance of relevant 21st century skills. 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. Describe the benefits of continuous learning. 	2.5
4.	Basic English Skills	 Show how to use basic English sentences for every day. conversation in different contexts, in person and over the telephone. Read and interpret text written in basic English Write a short note/paragraph / letter/e -mail using basic English. 	10
5.	Career Development & Goal Setting	Create a career development plan with well-defined short- and long-term goals.	2
6.	Communication Skills	 Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette. Explain the importance of active listening for effective communication. Discuss the significance of working collaboratively with others in a team. 	5
7.	Diversity & Inclusion	 Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD. Discuss the significance of escalating sexual harassment issues as per POSH act. 	2.5
8.	Financial and Legal Literacy	 Outline the importance of selecting the right financial institution, product, and service. Demonstrate how to carry out offline and online financial transactions, safely and securely. List the common components of salary and compute income, expenditure, taxes, investments etc. Discuss the legal rights, laws, and aids. 	5
9.	Essential Digital Skills	 Describe the role of digital technology in today's life. Demonstrate how to operate digital devices and use the 	10

		 associated applications and features, safely and securely. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely. Create sample word documents, excel sheets and presentations using basic features. Utilize virtual collaboration tools to work effectively. 	
10.	Entrepreneurship	 Explain the types of entrepreneurship and enterprises. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement. Create a sample business plan, for the selected business opportunity. 	7
11	Customer Service	 Describe the significance of analyzing different types and needs of customers. Explain the significance of identifying customer needs and responding to them in a professional manner. Discuss the significance of maintaining hygiene and dressing appropriately. 	5
12	Getting Ready for Apprenticeship & Jobs	 Create a professional Curriculum Vitae (CV). Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively. Discuss the significance of maintaining hygiene and confidence during an interview. Perform a mock interview. List the steps for searching and registering for apprenticeship opportunities. 	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				
lote: Abo	ve Tools &Equipment not required, if Computer LAB is available in the institute.	<u> </u>				







ANNEXURE

Trainer Requirements (Network System Associate)

Trainer Prerequisites						
Minimum Educational	Specialization	Relev Exper	ant Industry ience	Traini	ng Experience	Remarks
Qualification		Years	Specialization	Years	Specialization	
Graduate	Science/Electr onics/Telecom /IT and other relevant fields	1	Network Management	0		Eligible for ToT Program

Trainer Certification					
Domain Certification	Platform Certification				
Job Role: "Network System Associate" "TEL/Q6208 v3.0", Minimum accepted score is 80%	Job Role: "Trainer (VET and Skills)", "MEP/Q2601" v2.0, Minimum accepted score is 80%				







Assessor Requirements (Network System Associate)

Assessor Prerequisites						
Minimum Educational			int Industry ence	Training Experience		Remarks
Qualification		Years	Specialization	Years	Specialization	
Graduate	Science/Electr onics/Telecom /IT and other relevant fields	0	Telecom	0		Eligible for ToA Program

Assessor Certification					
Domain Certification	Platform Certification				
Job Role: "Network System Associate" TEL/Q6208 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	Specialization	Relevant Industry Experience		Trainin	g Experience	Remarks	
Qualification		Years Specialization		Years Specialization		1	
Graduate/CITS	Any discipline			2	Teaching experience	Prospective ES trainer should:	
Current ITI trainers	Employability Skills Training (3 days full-time course done between 2019-2022)					 have good communication skills be well versed in English have digital skills 	
Certified current EEE trainers (155 hours)	from Management SSC (MEPSC)					 have digital skins have attention to detail be adaptable have willingness to 	
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)					learn	

Trainer Certification					
Platform Certification					
NA					

Master Trainer Requirements (Employability Skills 60 hours)

Master Trainer Prerequisites							
Minimum Educational	Specialization	Relevant Industry Experience		Trainir	ng Experience	Remarks	
Qualification		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: • have good communication skills • be well versed in English • have basic digital skills	
Certified Master Trainer	Qualification Pack: Master Trainer (MEP/Q2602			3	EEE training of Management SSC (MEPSC) (155 hours)	 have attention to detail be adaptable have willingness to learn be able to grasp concepts fast and is creative with teaching practices and likes sharing back their learning with others 	

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

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







Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
SOP	Standard Operating Procedures
NMS	Network Management System
VPN	Virtual Private Network
LAN	Local Area Network
WLAN	Wireless Local Area Network
VLAN	Virtual Local Area Network
TCP/IP	Transmission Control Protocol/Internet Protocol
UDP	User Datagram Protocol
IP	Internet Protocol
SLA	Service Level Agreement
ES	Employability Skills