



# Model Curriculum

**QP Name: Field Management (FM) Engineer**

**QP Code: TEL/Q6202**

**QP Version: 3.0**

**NSQF Level: 5**

**Model Curriculum Version: 2.0**

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

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# Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
Country	India
NSQF Level	5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.0701
Minimum Educational Qualification & Experience	<p>Completed 2nd year of 3-year/ 4-years UG  <b>OR</b>  Pursuing 2nd year of 3-year/ 4-years UG and continuing education  <b>OR</b>  Completed 2nd year of diploma (after 12th)  <b>OR</b>  Pursuing 2nd year of 2-year diploma after 12th with No Experience required  <b>OR</b>  12th pass with 2 years of any combination of NTC/NAC/CITS or equivalent with No Experience required  Completed 3-year diploma after 10th  <b>OR</b>  <b>OR</b>  12th Grade pass with 1-year of NTC/NAC  <b>OR</b>  Completed 1st year of 3-year/ 4-years UG with 1-year relevant experience  <b>OR</b>  Previous relevant Qualification of NSQF Level 4 with 3-year relevant experience</p>
Pre-Requisite License or Training	Technical training on Active and Passive infrastructure equipment (including transmission equipment) deployed at radio locations
Minimum Job Entry Age	21 Years
Last Reviewed On	31/03/2022
Next Review Date	31/03/2022
NSQC Approval Date	31/03/2025
QP Version	3.0
Model Curriculum Creation Date	31/03/2022

Model Curriculum Valid Up to Date	31/03/2025
Model Curriculum Version	2.0
Minimum Duration of the Course	660 Hours, 0 Minutes
Maximum Duration of the Course	660 Hours, 0 Minutes

# 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.

- Perform Acceptance tests (AT) of new sites
- Maintain and update the test results
- Prepare and perform preventive maintenance operations
- Perform up-gradation of location infrastructure
- Maintain the effectiveness of change process
- Plan work effectively, implement safety practices and optimize use of resources
- Communicate, develop interpersonal skills and develop sensitization towards gender and persons with disability
- Diagnose and rectify the fault
- Demonstrate and monitor changes

## 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>30:00</b>
Role and Responsibilities of a Field Management engineer Module 1 (Bridge Module)	20:00	10:00	00:00	-	30:00
<b>TEL/N6208 – Undertake Site Acceptance Testing</b> <b>NOS Version No. 2.0</b> <b>NSQF Level 5</b>	<b>40:00</b>	<b>60:00</b>	<b>20:00</b>	-	<b>120:00</b>
Module 2: Perform Site Acceptance Testing	40:00	60:00	20:00	-	120:00
<b>TEL/N6209 – Perform Preventive and Corrective Maintenance at Radio Locations</b> <b>NOS Version No. 2.0</b> <b>NSQF Level 5</b>	<b>40:00</b>	<b>60:00</b>	<b>20:00</b>	-	<b>120:00</b>
Module 3: Perform Preventive and Corrective Maintenance at Radio Locations	40:00	60:00	20:00	-	120:00

<b>TEL/N6210 – Perform change management at radio locations</b> <b>NOS Version No. 2.0</b> <b>NSQF Level 5</b>	<b>30:00</b>	<b>40:00</b>	<b>20:00</b>	-	<b>90:00</b>
Module 4: Perform change management at radio locations	30:00	40:00	20:00	-	90:00
<b>TEL/N6500 – Undertake Fault Rectification</b> <b>NOS Version No. 2</b> <b>NSQF Level 5</b>	<b>30:00</b>	<b>30:00</b>	<b>30:00</b>	-	<b>90:00</b>
Module 7: Perform Fault Rectification	30:00	30:00	30:00	-	90:00
<b>TEL/N6501 – Undertake Configuration Changes, Upgrades and Node Backup Activities</b> <b>NOS Version No. 2</b> <b>NSQF Level 5</b>	<b>30:00</b>	<b>30:00</b>	<b>30:00</b>	-	<b>90:00</b>
Module 8: Perform Configuration Changes, Upgrades and Node Back-up Activities	30:00	30:00	30:00	-	90:00
<b>TEL/N9103 – Implement effective interaction at workplace</b> <b>NOS Version No. 1.0</b> <b>NSQF Level 5</b>	<b>10:00</b>	<b>20:00</b>	<b>00:00</b>	-	<b>30:00</b>
Module 5: Communication and Interpersonal skills	10:00	20:00	00:00	-	30:00
<b>TEL/N9104 – Manage work, Resource and safety at workplace</b> <b>NOS Version No. 1.0</b> <b>NSQF Level 5</b>	<b>10:00</b>	<b>20:00</b>	<b>00:00</b>	-	<b>30:00</b>
Module 6: Working effectively and optimizing resources for a safe workplace	10:00	20:00	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>270:0</b>	<b>270:0</b>	<b>120:00</b>	<b>00:00</b>	<b>660:00</b>

# Module Details

## Module 1: Role and Responsibilities of a Field Management (FM) Engineer *Mapped to Bridge Module*

### Terminal Outcomes:

- Explain the role and responsibilities of a Field Management Engineer

<b>Duration: 20:00</b>	<b>Duration: 10:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the role and responsibilities of a Field Management Engineer</li> <li>• Describe the various electrical and electronic components.</li> <li>• Prepare a list of the standard operating procedures (SOP) to be followed for use of tools and equipment, service and minor repairs.</li> <li>• Discuss the documentation involved in the different processes of maintenance.</li> <li>• State the safety, health and environmental policies and regulations for the workplace as well as for telecom sites in general.</li> </ul>	<ul style="list-style-type: none"> <li>• Use BSC and BTS site equipment, such as BSC node, BTS, feeder cables etc.</li> <li>• Guide about the standard checklists and schedules to engineers and workers recommended by the operating companies (OPCOs).</li> <li>• Arrange and use the tools and equipment required for site maintenance</li> <li>• Demonstrate the functionality of active and passive infrastructure equipment such as DG set, PIU panel, transformer, battery bank etc.</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>	
PCs/Laptops, Internet with Wi-Fi (Min. 2 Mbps Dedicated), Documents of Standard Operating Procedure (SOP), code of conduct, checklists, schedules, tools and equipment list, status report	

## Module 2: Undertake Site Acceptance Testing

### Mapped to TEL/N6208, v2.0

#### Terminal Outcomes:

- Perform Acceptance tests (AT) of new sites
- Maintain and update the test results

Duration: 40:00	Duration: 60:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Highlight the documents and checklists required before testing as per organizational standards</li> <li>• Explain the need of coordinating with infrastructure engineer for passive infrastructure requirements</li> <li>• Outline the organizational structure to inform concerned authorities about unresolved issues/tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a checklist of the required equipment and software to be used for AT purposes</li> <li>• Monitor the completion process of physical and logical tests as performed by team</li> <li>• Maintain and update the documents of testing results to be sent to higher authorities for approval</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>	
Computer logs, black box logs, Power Interface Unit panel, Switch Mode Power Supply (SMPS), Battery bank, microwave, login cables, E1 tester, Ethernet tester, voltage standing wave Ratio meter etc. Tools like pliers, power drill, screwdrivers, spanner, measurement tools, like multi-meter and thermometer, diagnostic tools Sample of preventive and corrective maintenance formats and checklists Laptop with software such as MS Office and CRM	



## Module 3: Perform Preventive and Corrective Maintenance at Radio Locations

### Mapped to TEL/N6209, v2.0

#### Terminal Outcomes:

- Prepare and perform preventive maintenance operations
- Record the maintenance status

<b>Duration: 40:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the importance of coordinating with NOC team for obtaining information and performing maintenance operations</li> <li>• Suggest the factors to judge the criticality of network alarms' faults and their impact</li> <li>• Discuss the need of coordinating with third part elements for maintenance activities</li> <li>• State the organizational procedure to report unresolved issues to higher concerned authorities</li> <li>• Describe the safety and environment standards that a Field Management (FM) engineer and his team must follow</li> <li>• Compare different solution alternatives after analysing the fault and its cause</li> <li>• Explain the importance of coordinating with infra engineers and technicians for rectifying passive infrastructure within the given timelines</li> <li>• Highlight the factors to judge the effective completion of maintenance and administrative tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a task list of the equipment and components while distinguishing if they require preventive or corrective maintenance</li> <li>• Use the provided information and other reports to identify the cause of fault in network alarms</li> <li>• Prepare a checklist of the tools and equipment required for testing purposes at radio locations</li> <li>• Follow the organizational process for getting the faulty equipment repaired and replaced</li> <li>• Demonstrate the steps of performing physical and logical maintenance tasks as per requirement</li> <li>• Conduct the review of wiring, grouting earthing connections and insulation requirements at radio locations</li> <li>• Perform the diagnostic tests to identify the fault in network alarm</li> <li>• Maintain and update maintenance related documents that need to be send for higher authority approval</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>	
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 4: Perform change management at radio locations

### Mapped to TEL/N6210, v2.0

#### Terminal Outcomes:

- Perform up-gradation of location infrastructure
- Maintain the effectiveness of change process

<b>Duration: 30:00</b>	<b>Duration: 40:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Highlight the factors to judge the criticality of the faults and their impact</li> <li>• State the SLA and organizational guidelines that a FM Engineer and his team must follow at the workplace</li> <li>• Explain the organizational procedure to obtain sign-off from all the relevant parties</li> <li>• Summarise the administrative tasks that need to be completed after completing the upgradation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Strategize a work plan while distinguishing the upgradation activities into different categories</li> <li>• Prepare an alternative work plan to be used in case of disruption in original plan</li> <li>• Arrange the required equipment and software at the workplace</li> <li>• Follow the organizational structure to get the components repaired or replaced</li> <li>• Monitor the upgradation activities performed by the team and communicate the issues, if any, to the customer</li> <li>• Demonstrate the steps to check the working and status of site alarm</li> <li>• Maintain and update maintenance documents to be approved by higher authorities</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>	
BSC, BTS, Feeder cables, microwave, optical fiber cables, cable connectors, cable ties, cable tray, IP network etc.	

## Module 5: Undertake Fault Rectification

### Mapped to TEL/N6500, v2.0

#### Terminal Outcomes:

- Diagnose and rectify the fault
- Record the test results

<b>Duration: 30:00</b>	<b>Duration: 40:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Highlight the factors to check the alarm status, its severity and impact</li> <li>• Discuss the solutions for fault rectification after comparing their feasibilities</li> <li>• Summarise the conditions which may require system reset as per fault analysis</li> <li>• State the organizational path to follow to send and monitor the team activities for fault rectification</li> <li>• Discuss the factors to consider the effective completion of maintenance and administrative tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the steps of identifying faults by checking the network alarm on NMS</li> <li>• Perform the steps of raising ticket for alarm maintenance activities</li> <li>• Prepare a report of the faults in alarm infrastructure and its causes</li> <li>• Use the organizational procedure and other diagnostic tests to identify the root cause of the alarm fault</li> <li>• Maintain and update the organizational logs and reports for higher authority approval</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>	
BSC, BTS, Feeder cables, microwave, optical fiber cables, cable connectors, cable ties, cable tray, IP network etc.	

## Module 6: Undertake Configuration Changes, Upgrades and Node Back-up Activities

### Mapped to TEL/N6501, v2.0

#### Terminal Outcomes:

- Demonstrate and monitor changes
- Record the test results

<b>Duration: 30:00</b>	<b>Duration: 30:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the need of informing and obtaining information from NOC and customer before starting upgradation activity</li> <li>• State the organizational guidelines and instructions that an engineer and his team must follow at the workplace</li> <li>• Explain the process of sharing maintenance results and obtaining sign-off from all the relevant parties</li> <li>• Describe the importance of coordinating with NOC team to ensure the effectiveness of maintenance process</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a work plan of the configuration change requirements as per their criticality and timelines</li> <li>• Develop an alternative plan to be implemented in case of any emergency or failure of original plan</li> <li>• Demonstrate the steps of configuration changes and taking back-up of nodes</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>	
BSC, BTS, Feeder cables, microwave, optical fiber cables, cable connectors, cable ties, cable tray, IP network etc.	

## Module 7: Communication and Interpersonal skills

### Mapped to TEL/N9103, v1.0

#### Terminal Outcomes:

- Communicate effectively and develop interpersonal skills
- Develop 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>• Identify roles and responsibilities and understand organisation’s policies.</li> <li>• List organisational guidelines for dress code, time schedules, language and other soft skill aspects.</li> <li>• List the different methods of communication.</li> <li>• Explain the importance of effective communication and interpersonal skills.</li> <li>• Analyse the common reasons for interpersonal conflicts and ways of managing them effectively.</li> <li>• Identify types of information needed by colleagues and its importance.</li> <li>• Identify the need for implementing standards, guidelines and practices pertaining to gender sensitivity, including work ethics and workplace etiquettes.</li> <li>• Explain the work ethics, workplace etiquettes as well as standards and guidelines for all genders and PwD.</li> <li>• List health and safety requirements for persons with disability.</li> <li>• List the rights, duties and benefits available at workplace for person with disability.</li> <li>• Identify the process of recruiting people with disability for a specific job.</li> <li>• Analyse the specific ways to help persons with disability overcome the challenges.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to interact with superiors in terms of escalating problems, reporting work completion and receiving feedback.</li> <li>• Apply team building skills to assist colleagues in maximizing effectiveness and efficiency of carrying out tasks.</li> <li>• Demonstrate appropriate communication skills and etiquettes while interacting with others.</li> <li>• Resolve conflicts with colleagues and adhere to commitment.</li> <li>• Demonstrate ideal workplace ethics while interacting with colleagues with respect to sharing information, co-ordinating work and showing respect.</li> <li>• Follow organisation’s policy for working with team members.</li> <li>• Illustrate importance of team goals over individual goals.</li> <li>• Use inclusive language irrespective of the gender/ disability of the person.</li> <li>• Demonstrate appropriate behaviour towards all genders and differently abled people.</li> </ul>
<b>Classroom Aids:</b>	
White board/ black board marker / chalk, duster, computer or Laptop attached to LCD projector	
<b>Tools, Equipment and Other Requirements</b>	
Sample of escalation matrix, organisation structure.	

## Module 8: Working effectively and optimizing resources for a safe workplace Mapped to TEL/N9104, v1.0

### Terminal Outcomes:

- Plan work effectively, implement safety practices and optimize 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 importance of following the standard operating procedures of the company w.r.t. privacy, confidentiality and security.</li> <li>List the key performance indicators for the new tasks.</li> <li>Identify the opportunities for team building workshops and motivational trainings.</li> <li>List and explain work requirements to be followed by the team.</li> <li>Identify the issues with and handle them.</li> <li>Discuss correct way to show emotions at workplace.</li> <li>Describe the importance of timely completion of tasks.</li> <li>Explain the importance of escalation matrix.</li> <li>Explain the importance of providing and receiving feedback constructively.</li> <li>Analyse ways to optimize usage of resources.</li> <li>List the importance, cause and effect of greening of jobs.</li> <li>Identify different types of hazards such as illness, accidents, fires etc.</li> <li>List the causes of risks and potential hazards in a work area and ways to prevent them.</li> <li>List the steps to report accident and health related issues as per SOP.</li> <li>Explain the concept of waste management.</li> <li>List the methods of waste disposal.</li> <li>Identify the different categories of waste for the purpose of segregation.</li> <li>Differentiate between recyclable and non-recyclable waste.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate techniques to save on cost and time.</li> <li>Demonstrate routine cleaning of tools, equipment and machines to ensure team follows the same.</li> <li>Use resources such as water judiciously.</li> <li>Check for malfunctions in equipment and report as per SOP.</li> <li>Report any breaches in safety and security to the concerned person.</li> <li>Illustrate ways to keep work area clean such as mopping spills and leaks, cleaning grease stains etc.</li> <li>Check for spills and leaks and plug the same.</li> <li>Demonstrate segregation of types of hazardous waste.</li> <li>Illustrate steps to minimise waste.</li> <li>Illustrate proper waste disposal procedures and how to dispose-off hazardous waste.</li> <li>Illustrate ways to find exact cause of a problem and validate the same in case done by a team member.</li> </ul>

<ul style="list-style-type: none"> <li>• Differentiate between recyclable and non-recyclable waste.</li> <li>• List electronic waste disposal procedures.</li> </ul>	
<b>Classroom Aids:</b>	
White board/ black board marker / chalk, duster, computer or Laptop attached to LCD projector	
<b>Tools, Equipment and Other Requirements</b>	
Personal Protection Equipment: safety glasses, head protection, rubber gloves, safety footwear, warning signs and tapes, fire extinguisher and first aid kit	

## Module 9: On-the-Job Training Mapped to Field Management (FM) Engineer

<b>Mandatory Duration: 120:00</b>	<b>Recommended Duration: 00:00</b>
<b>Location: On-Site</b>	
<b>Terminal Outcomes</b>	
<ol style="list-style-type: none"> <li>1. Create a checklist of the required equipment and software.</li> <li>2. Monitor the processes for physical and logical tests.</li> <li>3. Maintain and update documents of testing results.</li> <li>4. Create a task list of the equipment and components.</li> <li>5. Ensure that the team adheres organizational process for getting the faulty equipment repaired and replaced.</li> <li>6. Perform physical and logical maintenance tasks as per requirement.</li> <li>7. Review of wiring, grouting earthing connections, and insulation requirements at radio locations.</li> <li>8. Conduct diagnostic tests to identify the fault in the network alarm.</li> <li>9. Maintain and update maintenance-related documents.</li> <li>10. Manage a work plan while distinguishing the up-gradation activities into different classifications.</li> <li>11. Organize the equipment and software at the workplace.</li> <li>12. Adhere to the organizational structure to get the components repaired or replaced.</li> <li>13. Monitor the upgradation activities.</li> <li>14. Check the working and status of the site alarm.</li> <li>15. Maintain and update maintenance documents.</li> </ol>	



## Module 10: DGT/VSQ/N0102 Employability Skills (60 hours) Mapped to Field Management (FM) Engineer

**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 Skills	<ul style="list-style-type: none"> <li>Describe the role of digital technology in today's life.</li> <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
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 (Field Management (FM) Engineer)

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
B.E./B.Tech/ BCA/B.SC	Science/Electronics/ Telecom/IT and other relevant fields	2	Tower Maintenance	0		Eligible for ToT Program

Trainer Certification	
Domain Certification	Platform Certification
Job Role: “ <b>Field Management Engineer Level 5</b> ” “TEL/Q6202 v3.0”, Minimum accepted score is 80%	Job Role: “ <b>Trainer (VET and Skills)</b> ”, “MEP/Q2601” v2.0, Minimum accepted score is 80%

## Assessor Requirements (Field Management (FM) Engineer)

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
B.E./B.Tech/ BCA/B.SC	Science/Electronics/ Telecom/IT and other relevant fields	2	Tower Maintenance	0		Eligible for ToA Program

Assessor Certification	
Domain Certification	Platform Certification
Job Role: “ <b>Field Management Engineer Level 5</b> ” “TEL/Q6202 v3.0”, Minimum accepted score is 80%	Job Role: “ <b>Assessor (VET and Skills)</b> ” “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