



# Model Curriculum

**QP Name: Line Assembler – Telecom Products**

**QP Code: TEL/Q2502**

**QP Version: 4.0**

**NSQF Level: 4**

**Model Curriculum Version: 1.0**

Telecom Sector Skill Council of India  
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# Training Parameters

|  |   |
|--|---|
| Sector   | Telecom   |
| Sub-Sector                                     | Handset   |
| Occupation                                     | Communication Electronics   |
| Country  | India   |
| NSQF Level                                     | 4   |
| Aligned to NCO/ISCO/ISIC Code                  | NCO-2015/3114.1402  |
| Minimum Educational Qualification & Experience | <p>11th grade pass</p> <p><b>OR</b></p> <p>Completed 1st year of 3- year diploma (after 10th) and pursuing regular diploma</p> <p><b>OR</b></p> <p>10th grade pass and pursuing continuous schooling</p> <p><b>OR</b></p> <p>10th Grade Pass with 2-year relevant experience</p> <p><b>OR</b></p> <p>Previous relevant Qualification of NSQF Level 3 with minimum education as 5th Grade pass with 2-year relevant experience</p> |
| Pre-Requisite License or Training              | NA  |
| Minimum Job Entry Age                          | 17 Years  |
| Last Reviewed On                               | 24/02/2022  |
| Next Review Date                               | 24/02/2025  |
| NSQC Approval Date                             | 24/02/2022  |
| QP Version                                     | 4.0   |
| Model Curriculum Creation Date                 | 24/02/2022  |
| Model Curriculum Valid Up to Date              | 24/02/2025  |
| Model Curriculum Version                       | 2.0   |
| Minimum Duration of the Course                 | 570 Hours, 0 Minutes  |
| Maximum Duration of the Course                 | 570 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.

- Preparing screen printing of telecom boards.
- Demonstrate components placement on telecom board.
- Demonstrate the process of soldering reflow on telecom boards.
- Perform cleaning and inspection of telecom boards.
- Organize work and resources as per health and safety standards.
- Communicate, develop interpersonal skills, and develop sensitization towards gender and person 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 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>   |
| Module 1: Introduction to the role of LineAssembler – Telecom Product  | 20:00           | 10:00              | 00:00                                    | -  | 30:00          |
| <b>TEL/N2506– Preparing Workspace for assembly operations</b><br><b>NOS Version No. 2.0</b><br><b>NSQF Level 4</b> | <b>50:00</b>    | <b>60:00</b>       | <b>40:00</b>                             | -  | <b>150:00</b>  |
| Module 2: Preparing Workspace for assembly operations  | 50:00           | 60:00              | 40:00                                    |  | 150:00         |
| <b>TEL/N2507– Assembly operations in production line</b><br><b>NOS Version No. 2.0</b><br><b>NSQF Level 4</b>      | <b>40:00</b>    | <b>40:00</b>       | <b>40:00</b>                             |  | <b>120:00</b>  |
| Module 3: Assembly operations in production line   | 40:00           | 40:00              | 40:00                                    |  | 120:00         |
| <b>TEL/N2508 – ESD safe procedures and practices</b><br><b>NOS Version No. 2.0</b><br><b>NSQF Level 4</b>          | <b>40:00</b>    | <b>40:00</b>       | <b>40:00</b>                             |  | <b>120:00</b>  |

|   |               |               |               |   |               |
|---|---------------|---------------|---------------|---|---------------|
| Module 4: ESD safe procedures and practices   | 40:00         | 40:00         | 40:00         |   | 120:00        |
| <b>(Bridge Modules) - Industrial Education</b><br><b>NOS Version No. 2.0NSQF</b><br><b>Level 4</b>                                    | <b>10:00</b>  | <b>20:00</b>  | <b>00:00</b>  | - | <b>30:00</b>  |
| Module 5: Industrial Education  | 10:00         | 20:00         | 00:00         | - | 30:00         |
| <b>TEL/N9101 – Organize work and resources as per health and safety standards</b><br><b>NOS Version No. 1.0NSQF</b><br><b>Level 4</b> | <b>10:00</b>  | <b>20:00</b>  | <b>00:00</b>  | - | <b>30:00</b>  |
| Module 6: Plan Work Effectively, Optimise Resources and Implement Safety Practices  | 10:00         | 20:00         | 00:00         | - | 30:00         |
| <b>TEL/N9102 – Communicate effectively with team members and customers</b><br><b>NOS Version No. 1.0NSQF</b><br><b>Level 4</b>        | <b>10:00</b>  | <b>20:00</b>  | <b>00:00</b>  | - | <b>30:00</b>  |
| Module 7: Communication and interpersonal skills  | 10:00         | 20:00         | 00:00         | - | 30:00         |
| DGT/VSQ/N0102 Employability Skills (60 Hours)   | 60:00         | 00:00         | 00:00         | - | 60:00         |
| <b>Total Duration</b>   | <b>240:00</b> | <b>210:00</b> | <b>120:00</b> | - | <b>570:00</b> |

# Module Details

## Module 1: Introduction to the Role of Line Assembler – Telecom Products Mapped to Bridge Module

### Terminal Outcomes:

- Identify the role, responsibilities and scope of work of a Line Assembler – Telecom Products.
- Discuss how to plan work effectively, implement safety practices and optimize use of resources.

| <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>• Understand the fundamentals of electronics.</li> <li>• Understanding various Active &amp; Passive components and also about Resistors, capacitors, inductors and colour coding of capacitors and resistors.</li> <li>• Understand Diode – Switch and rectifier, Transistor – amplifier and switch, Logic Gates</li> <li>• Basic knowledge of electronic circuits and functions (transmitters, receivers, switches, power supplies, amplifiers, multiplexers, couplers, registers, memory and all RF circuits in telecom equipment</li> <li>• Introduction to PCB</li> <li>• Multi layered PCB – important concepts</li> <li>• Understanding the properties of copper – clad laminates (CCL), layout design and planning</li> <li>• Cleaning of Boards before pattern transfer</li> </ul> | <ul style="list-style-type: none"> <li>• Perform electrical lines and hydraulic assembling.</li> <li>• Understand and assemble structural components as per specifications provided.</li> <li>• Carry out structural assembly tasks such fittings, reworking, and bulkheads.</li> <li>• Perform trimming, altering, reforming and assembling of structural parts.</li> <li>• Demonstrate how to use electronic boards, components and related accessories relevant tools as per work instructions and product specification drawings.</li> </ul> |
| <b>Classroom Aids:</b>  |  |
| Laptop, white board, marker, projector  |  |
| <b>Tools, Equipment and Other Requirements</b>  |  |
| Documents of standard operating procedures, code of conduct, checklists, installation and troubleshooting tools/equipment’s, status report  |  |

## Module 2: Preparing Workspace for assembly operations

Mapped to TEL/N2506, v2.0

### Terminal Outcomes:

- Arrange tools and equipment for assembly operations of telecom devices/products.
- Demonstrate the process of safe handling of tools and consumables.

| <b>Duration: 50:00</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>• Identify tools and equipment after understanding the types of mechanical parts like screws, nuts, securing clips and their applicability.</li> <li>• Arrange basic assembly tools and range of hand tools.</li> <li>• Understand types of semi-automatic tools used for electronics components fitment/ forming/ preparation like thermal wire strippers, adjustable electronic board holders, led free soldering tools, precision screwdriver set, workstation.</li> <li>• Different types of consumables used for soldering and their applicability.</li> </ul> | <ul style="list-style-type: none"> <li>• Draw correct components from the store by understanding different types of electronic parts/components.</li> <li>• Demonstrate use of mechanical parts like screws, nuts, identification of types and importance of use for assembly.</li> <li>• Demonstrate use of hand tools like screw drivers, electric screw drivers, spanners, forceps, forming players, cutters etc.</li> <li>• Demonstrate storage and handling before usage of consumables like thawing, stirring, etc.</li> </ul> |
| <b>Classroom Aids:</b>   |  |
| Laptop, white board, marker, projector   |  |
| <b>Tools, Equipment and Other Requirements</b>   |  |
| <p>Complete Knock Down Kits for handsets/smartphones, Workbench (ESD Safe) - Tools &amp; Equipment (Precision Screwdrivers, Soldering Station (temperature control), Solder, flux, jumper wires, cutter, tweezer, wire strippers etc.), Fume extractor, Flux, Sponge, Brass wool (for bit cleaning), ESO Brush (only at cleaning Stage), IPA, lint free cloth, automatic screwing machine.</p> <p>Personal Protection Equipment: safety glasses, head protection, warning signs and tapes.</p>   |  |

## Module 3: Assembly operations in production line

Mapped to TEL/N2507, v2.0

### Terminal Outcomes:

- Perform assembly operations of telecom devices/products
- Demonstrate post-assembly activities

| <b>Duration: 40:00</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>• Ascertain availability of all parts/ components, tools, and equipment of telecom devices/products</li> <li>• Understand basic units of measurement used in voltage, current, resistance and power measurements, frequency, RF, w.r.t telecommunication equipment.</li> <li>• Understand basic concepts of shopfloor work productivity including waste reduction, efficient material usage and optimization of time.</li> <li>• Handling of critical parts during assembly and consumables</li> <li>• Hands-on with basic soldering techniques, type of soldering defects, their effect on performance and rework process</li> <li>• Handling of different kinds of electronic parts/components &amp; connectors and understanding of specifications</li> <li>• Understand Handset Assembly operation stages</li> <li>• Undertake assembly operation</li> <li>• Fire-up the handset by uploading OS and core Apps</li> <li>• Understand Electronic Component Specifications &amp; undertake Testing</li> <li>• Undertake RF Measurement and use of related equipment's (Network Analysers, Spectrum Analysers, Signal Generators, Power meters, Oscilloscopes) to ascertain performance of assembled handset</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstrate different types of hand tools and semi-automatic tools used for electronics components, tweezers, forming tools, pliers, cutters, wire strippers, de-soldering pump etc.</li> <li>• Select correct solder bit, soldering wire and correct flux and check component leads and boards for any contamination.</li> <li>• Demonstrate PCBs (bare board) baking, storage, and handling of critical parts during assembly and consumables handling like flux, paste etc.</li> <li>• Illustrate diagrams, drawings, assembly drawings, specifications and schedules pertaining to electronics line assembly/ production</li> <li>• Demonstrate the functions of electronic circuits and transmitters, receivers, switches, power supplies, amplifiers, multiplexers, couplers, registers, memory, and all RF circuits in telecom equipment</li> <li>• Demonstrate understanding of the work instructions and familiarity with the assembly</li> <li>• Demonstrate arrangement of components as per the assembly instructions</li> <li>• Verify specifications of components as per Drawing &amp; Bill of Material (BOM)</li> <li>• Confirm availability of all parts/components, tools, and equipment's of telecom devices/products</li> <li>• Analyse various factors to be considered before accepting job</li> <li>• Identify and draw tools and equipment requirement as per the work instructions</li> <li>• Contract and commission job requirement, processes and documentation as required</li> </ul> |
| <b>Classroom Aids:</b>  |   |



Laptop, white board, marker, projector

### **Tools, Equipment and Other Requirements**

Complete Knock Down Kits for handsets/smartphones, Workbench (ESD Safe) – Tools & Equipment (Precision Screwdrivers, Soldering Station (temperature control), solder, flux, jumper wires, cutter, tweezers, wire strippers etc.), Fume extractor, Flux, Sponge, Brass wool (for bit cleaning), ESD Brush (only at cleaning stage), IPA, lint free cloth, automatic screwing machine.  
Personal Protection Equipment: safety glasses, head protection, warning signs and tapes.

## Module 4: ESD safe procedures and practices Mapped to TEL/N2508, v2.0

### Terminal Outcomes:

- Demonstrate safe handling of ESD equipment and storage and avoid ESD failures
- Demonstrate grounding paths and various methods/accessories used for grounding in the work area

| <b>Duration: 40:00</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>• Describe ESD safety procedures during the assembly operations.</li> <li>• Follow maintenance procedures and management.</li> <li>• Summarize industrial act, company standards.</li> <li>• Compile the importance of standard operating procedure.</li> <li>• Describe levels of Electrostatic voltage generation during normal working environment on the shop floor like walking on various floors while soldering, cleaning etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstrate maintenance procedures and basic maintenance management</li> <li>• Demonstrate the importance of time management and punctuality</li> <li>• Demonstrate grounding paths and various methods/accessories used for grounding in the work area</li> <li>• Demonstrate safe handling, storage/ stacking of parts, assembly/ sub-assemblies to avoid/prevent ESD failures</li> <li>• Perform basics of conducting ESD audits on various facility like tables, flooring, straps, aprons, static/anti-static packaging etc.</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>  |  |
| ERP Software, Log sheet, Logbook, etc.<br>Personal Protection Equipment: safety glasses, head protection, rubber gloves, safety footwear, warning signs and tapes, fire extinguisher and first aid kit  |  |

## Module 5: Industrial Education

### Mapped to Bridge Module

#### Terminal Outcomes:

- Build proper relationship with colleagues
- Prepare different log sheet

| <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>• Communicate with colleagues, peers and supervisor and stake holders</li> <li>• Follow liaising and coordination skills.</li> <li>• Listen effectively and orally communicate information accurately.</li> <li>• Identify Quality Check (QC) tools.</li> <li>• Follow maintenance procedures and management.</li> <li>• Summarize industrial act, company standards.</li> <li>• Compile the importance of standard operating procedure.</li> </ul> | <ul style="list-style-type: none"> <li>• Demonstrate maintenance procedures and basic maintenance management</li> <li>• Perform routine, preventive predictive and breakdown maintenance</li> <li>• Demonstrate the importance of time management and punctuality</li> <li>• Describe Industrial Act and Company Standards</li> <li>• Maintain ERP and Log sheet/Logbook</li> <li>• Outline the importance of standard operating procedure (SOP)</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>   |   |
| EPR, Log sheet, Logbook, etc<br>Personal Protection Equipment: safety glasses, head protection, rubber gloves, safety footwear, warning signs and tapes, fire extinguisher and first aid kit   |   |

## Module 6: Plan Work Effectively, Optimise Resources and Implement Safety Practices Mapped to TEL/N9101, v1.0

### Terminal Outcomes:

- 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  |
| <ul style="list-style-type: none"> <li>Discuss the importance of following the standard operating procedures of the company w.r.t. privacy, confidentiality and security.</li> <li>Explain how to develop skills and expertise in the job role.</li> <li>List the key performance indicators for the new tasks.</li> <li>Discuss correct way to show emotions at workplace.</li> <li>Identify the issues with and handle them.</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>Identify different types of hazards such as illnesses, accidents, fires, etc.</li> <li>List the causes of risks and potential hazards in a work area and the ways to prevent them</li> <li>List the steps to report accident and health related issues as per SOP</li> <li>Explain the importance of maintaining proper posture at work, especially when handling heavy and hazardous materials</li> <li>Analyse ways to optimise usage of resources.</li> <li>Discuss how to optimise the use of electrical equipment and appliances to ensure that they conform to safety and resource conservation norms</li> <li>List the importance, cause and effect of greening of jobs</li> <li>Explain the concept of waste management</li> <li>List the methods of waste disposal</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 practices</li> <li>Use resources such as water judiciously</li> <li>Perform basic steps to 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>Perform basic steps to check for spills and leaks and plug the same</li> <li>Demonstrate segregation of different 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>• Identify the different categories of waste for the purpose of segregation</li> <li>• Differentiate between recyclable and non-recyclable waste</li> <li>• List electronic waste disposal procedures</li> <li>• List the common sources of pollution and the ways to minimize it</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 7: Communication and Interpersonal Skills

### Mapped to TEL/N9102, v1.0

#### Terminal Outcomes:

- Develop communication skills, interpersonal skills and sensitization towards gender and persons with disability

| <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 roles and responsibilities and understand organisation’s policies</li> <li>• Discuss the organisational guidelines for dress code, time schedules, language, and other soft skill aspects</li> <li>• Discuss the importance of reporting unforeseen disruptions or delays</li> <li>• Explain how to give and receive feedback in a constructive way</li> <li>• List the different methods of communication</li> <li>• Explain the importance of effective communication and interpersonal skills</li> <li>• Discuss how to listen attentively and respond appropriately</li> <li>• Describe the common reasons for interpersonal conflicts and ways of managing them effectively</li> <li>• List the different types of information needed by colleagues and their importance</li> <li>• Discuss the importance of implementing standards, guidelines and practices pertaining to gender sensitivity, including work ethics and workplace etiquette</li> <li>• Discuss about the different types of disabilities along with their respective issues</li> <li>• Explain work ethics, workplace etiquette as well as standards and guidelines for all genders and PwD</li> <li>• List health and safety requirements for persons with disability</li> <li>• Describe the rights, duties and benefits available at workplace for persons with disability</li> <li>• Explain the process of recruiting people with disability for a specific job</li> <li>• Discuss 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 maximising effectiveness and efficiency of carrying out tasks</li> <li>• Demonstrate appropriate communication skills and etiquette 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> |

**Classroom Aids:**

White board/ black board marker / chalk, duster, computer or laptop attached to LCD projector

**Tools, Equipment and Other Requirements**

Sample of escalation matrix, organisation structure.

## Module 8: On-the-Job Training

Mapped to TEL/Q2502, v2.0

|  |                                    |
|--|------------------------------------|
| <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. Undertake assembly operation.</li> <li>2. Undertake RF Measurement and use of related equipment's (Network Analyzers, Spectrum Analyzers, Signal Generators, Power meters, Oscilloscopes) to ascertain performance of assembled handsets.</li> <li>3. Basics of conducting ESD audits on various facility like worktables, flooring, straps, aprons, static/antistatic packaging etc.</li> <li>4. Demonstrate the usage of different types of electronic parts/ components applicable for assembly operations</li> <li>5. Implement the guidelines prescribed by the organisation for safe handling of electronic components</li> <li>6. Identify different types of mechanical parts like screws, nuts, securing clips and their applicability</li> <li>7. Demonstrate understanding of the work instructions and familiarity with the assembly</li> <li>8. Demonstrate arrangement of components as per the assembly instructions</li> <li>9. Verify specifications of components as per Drawing &amp; Bill of Material (BOM)</li> <li>10. Confirm the availability of all parts/components, tools and equipment's of telecom devices/products</li> <li>11. Analyse various factors to be considered before accepting job</li> <li>12. Identify and draw tools and equipment requirement as per the work instructions</li> <li>13. Contract and commission job requirement, processes and documentation as required</li> </ol> |                                    |



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

### Mapped to Line Assembler – Telecom Products

**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</li> </ul>  | 10               |

|     |   |   |   |
|-----|---|---|---|
|     |   | <p>associated applications and features, safely and securely.</p> <ul style="list-style-type: none"> <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)<br>(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 |
| <i>Note: Above Tools &amp; Equipment not required, if Computer LAB is available in the institute.</i> |  |             |

# Annexure

## Trainer Requirements (Line Assembler - Telecom Products)

| Trainer Prerequisites                      |   |                              |                    |                     |                |                          |
|--|---|------------------------------|--------------------|---------------------|----------------|--------------------------|
| Minimum Educational Qualification          | Specialization  | Relevant Industry Experience |                    | Training Experience |                | Remarks                  |
|  |   | Years                        | Specialization     | Years               | Specialization |                          |
| <b>Graduate</b>                            | Science/Electrical/Electronics/IT and other relevant fields | 1                            | Handset Assembling | 0                   | NA             | Eligible for ToT Program |
| <b>Diploma after Class 10<sup>th</sup></b> | Science/Electrical/Electronics/IT and other relevant fields | 4                            | Handset Assembling | 0                   | NA             | Eligible for ToT Program |

| Trainer Certification   |  |
|---|--|
| Domain Certification  | Platform Certification   |
| Certified in Job Role: “Line Assembler – Telecom Products” - Level 4” “TEL/Q2502, v2.0”, Minimum accepted score is <b>80%</b> | Certified in Job Role: Job Role: “Trainer” “MEP/Q2601”, Minimum accepted score is <b>80%</b> |

## Assessor Requirements (Line Assembler - Telecom Products)

| Assessor Prerequisites               |   |                              |                    |                     |                |                          |
|--------------------------------------|---|------------------------------|--------------------|---------------------|----------------|--------------------------|
| Minimum Educational Qualification    | Specialization  | Relevant Industry Experience |                    | Training Experience |                | Remarks                  |
|                                      |   | Years                        | Specialization     | Years               | Specialization |                          |
| Graduate                             | Science/Electrical/Electronics/IT and other relevant fields | 1                            | Handset Assembling | 0                   | NA             | Eligible for ToA Program |
| Diploma after Class 10 <sup>th</sup> | Science/Electrical/Electronics/IT and other relevant fields | 4                            | Handset Assembling | 0                   | NA             | Eligible for ToA Program |

| Assessor Certification  |   |
|---|---|
| Domain Certification  | Platform Certification  |
| Certified in Job Role: “Line Assembler – Telecom Products” - Level 4” “TEL/Q2502, v2.0”, Minimum accepted score is <b>80%</b> | Certified in Job Role: Job Role: “Assessor” “MEP/Q2701”, Minimum accepted score is <b>80%</b> |

## 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%<br>OR<br>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> .<br><br><b>OR</b><br>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
  - Method of verification or validation: Surprise visit to the assessment location
  - Random audit of the batch
  - Random audit of any candidate
5. 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>Sector</b>                | Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.   |
| <b>Sub-sector</b>            | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.  |
| <b>Occupation</b>            | Occupation is a set of job roles, which perform similar/ related set of functions in an industry.   |
| <b>Job Role</b>              | Job role defines a unique set of functions that together form a unique employment opportunity in an organization.   |
| <b>OS</b>                    | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.                                       |
| <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          |
| SMD     | Surface Mount Devices                     |
| SMT     | Surface Mount Technology                  |
| THD     | Through Hole Devices                      |
| THT     | Through Hole Technology                   |
| PCB     | Printed Circuit Board                     |
| AC/DC   | Alternating/ Direct Current               |
| R, C, L | Resistance, Capacitor, Inductor           |
| HIRA    | Hazard Identification and Risk Assessment |
| HLA     | Higher Level Assembly                     |
| Txr     | Transmitter                               |
| SHE     | Safety, Health and Environment            |
| OHS     | Occupational Health and Safety            |
| ES      | Employability Skills                      |