



# Model Curriculum

**QP Name: Field Technician Other Home Appliances (Divyangjan)**

**QP Code: PWD/ELE/Q3104**

**QP Version: 2.0**

**NSQF Level: 4**

**Model Curriculum Version: 2.0**

**Expository: Speech and Hearing Impairment (E004)**

Skill Council for Person with Disability | | Address: 501-City Centre, 12/5 Dwarka New Delhi –  
110075

# Table of Contents

Training Parameters .....	3
Program Overview.....	5
Training Outcomes .....	5
Compulsory Modules.....	5
Module 1: Learn Basic Indian Sign Language.....	6
Module 2: Use Basic English.....	7
Module 3: Personal & Social Skill.....	8
Module 4: Professional & Ethical Behavior in the Workplace.....	9
Module 5: Introduction and orientation to the role of a Field Technician Other Home Appliances ...	10
Module 6: Process of engaging with customer with service.....	11
Module 7: Process of installing the water purifier .....	12
Module 8: Process of repairing dysfunctional water purifier .....	14
Module 9: Process of repairing dysfunctional mixer/juicer/grinder .....	16
Module 10: Process of dysfunctional microwave oven .....	18
Module 11: Soft Skills and Work Ethics .....	20
Module 12: Basic Health and Safety Practice.....	22
Module 13: On-the-Job Training .....	24
Annexure.....	25
Trainer Requirements .....	25
Assessor Requirements.....	26
Assessment Strategy.....	27
Guidelines for trainer.....	29
References .....	30
Glossary.....	30
Acronyms and Abbreviations .....	31

## Training Parameters

<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Consumer Electronics & IT Hardware
<b>Occupation</b>	After Sales Service
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7249.90
<b>Minimum Educational Qualification and Experience</b>	11th grade pass Or Completed 1st year of 3-year diploma (after 10th) and pursuing regular diploma Or 10th grade pass plus 1-year NTC/ NAC Or 8th grade pass plus 2-year NTC plus 1 Year NAC Or 8th pass plus 1-year NTC plus 1-Year NAC plus CITS Or 10th grade pass and pursuing continuous schooling 10th Grade Pass no experience-In addition to Notional hours OJT/internship of 8 months Previous relevant Qualification of NSQF Level 3.0 with minimum education as 5th Grade pass no experience- In addition to Notional hours OJT/internship of 8 months Previous relevant Qualification of NSQF Level3.5 no experience- In addition to Notional hours OJT/internship of 4 months
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	27/01/2022
<b>Next Review Date</b>	02/06/2026
<b>NSQC Approval Date</b>	
<b>QP Version</b>	2.0
<b>Model Curriculum Creation Date</b>	27/01/2022
<b>Model Curriculum Valid Up to Date</b>	02/06/2026
<b>Model Curriculum Version</b>	2.0
<b>Minimum Duration of the Course</b>	690 Hours
<b>Maximum Duration of the Course</b>	690 Hours

## Program Overview

This section summarizes the end objectives of the program along with its duration.

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills:

- Describe the process of engaging with customer with service.
- Describe the process of installing the water purifier.
- Demonstrate the process of repairing dysfunctional water purifier.
- Demonstrate the process of repairing dysfunctional mixer/juicer/grinder.
- Demonstrate the process of dysfunctional microwave oven.
- Explain the importance of following inclusive practices for all genders and PwD at work.
- Demonstrate various practices to be followed to maintain health and safety at work.

### 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 (Recommended)	On-the-Job Training Duration (Mandatory)	Total Duration
<b>Bridge Module (PwD)</b>	<b>60:00</b>	<b>30:00</b>	<b>00:00</b>	<b>00:00</b>	<b>90:00</b>
Module 1 Learn Basic Indian Sign Language (ISL) Bridge Module (PwD)	15:00	12:00	00:00	00:00	27:00
Module 2 Use Basic English Bridge Module (PwD)	27:00	12:00	00:00	00:00	39:00
Module 3 Personal and Social Skill Bridge Module (PwD)	09:00	03:00	00:00	00:00	12:00
Module 4 Professional & Ethical Behavior in the Workplace Bridge Module (PwD)	09:00	03:00	00:00	00:00	12:00
<b>Bridge Module</b>	<b>04:00</b>	<b>00:00</b>	<b>00:00</b>	<b>04:00</b>	<b>08:00</b>
Module 5: Introduction and orientation to the role of a Field Technician Other Home Appliances	04:00	00:00	00:00	04:00	08:00
<b>ELE/N3101: Engage with customer with service NOS Version- 2.0 NSQF Level- 4</b>	<b>20:00</b>	<b>30:00</b>	<b>00:00</b>	<b>30:00</b>	<b>80:00</b>
Module 6: Process of engaging with customer with service	20:00	30:00	00:00	30:00	80:00

<b>ELE/N3118: Install the water purifier</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 4</b>	<b>20:00</b>	<b>40:00</b>	<b>00:00</b>	<b>30:00</b>	<b>90:00</b>
Module 7: Process of installing the water purifier	20:00	40:00	00:00	30:00	90:00
<b>ELE/N3119: Repair dysfunctional water purifier</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 4</b>	<b>20:00</b>	<b>40:00</b>	<b>00:00</b>	<b>26:00</b>	<b>86:00</b>
Module 8: Process of repairing dysfunctional water purifier	20:00	40:00	00:00	26:00	86:00
<b>ELE/N3120: Repair dysfunctional mixer/ juicer/ grinder</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 4</b>	<b>25:00</b>	<b>45:00</b>	<b>00:00</b>	<b>30:00</b>	<b>100:00</b>
Module 9: Process of repairing dysfunctional mixer/juicer/grinder	25:00	45:00	00:00	30:00	100:00
<b>ELE/N3121: Repair dysfunctional microwave oven</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 4</b>	<b>25:00</b>	<b>45:00</b>	<b>00:00</b>	<b>30:00</b>	<b>100:00</b>
Module 10: Process of dysfunctional microwave oven	25:00	45:00	00:00	30:00	100:00
<b>ELE/N9905 Work effectively at the workplace</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 4</b>	<b>18:00</b>	<b>20:00</b>	<b>00:00</b>	<b>00:00</b>	<b>38:00</b>
Module 11: Soft Skills and Work Ethics	18:00	20:00	00:00	00:00	38:00
<b>ELE/N1002 Apply health and safety practices at the workplace</b> <b>NOS Version- 3.0</b> <b>NSQF Level- 4</b>	<b>18:00</b>	<b>20:00</b>	<b>00:00</b>	<b>00:00</b>	<b>38:00</b>
Module 12: Basic Health and Safety Practice	18:00	20:00	00:00	00:00	38:00
<b>Employability Skills</b>	<b>60:00</b>	<b>00:00</b>	<b>NA</b>	<b>NA</b>	<b>60:00</b>
<b>Total Duration</b>	<b>270:00</b>	<b>270:00</b>	<b>00:00</b>	<b>150:00</b>	<b>690:00</b>

# Module Details

## Module 1: Learn Basic Indian Sign Language (ISL)

Mapped to: Bridge Module

### Terminal Outcomes:

- Communicate using basic Indian Sign Language.

Duration: 15:00	Duration: 12:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss the regional differences in signs used in Indian Sign Language.</li> <li>• Describe ways to greet and respond to others.</li> <li>• Explain significance of facial expressions and gestures in enhancing meaning of signed words.</li> <li>• Discuss the general sentence rules used while signing</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate introductions and greetings using Indian Sign language</li> <li>• Demonstrate use of finger spellings in ISL (for example: names, places, and abbreviations.)</li> <li>• Express simple actions and feeling using ISL.</li> <li>• Express information related to time, directions, numbers, and currency using ISL.</li> <li>• Express information related to self-using ISL. (e.g., name, native place, city, state, family members, work etc.)</li> </ul>
Classroom Aids	
Laptop, white board, marker, projector	
Tools, Equipment and Other Requirements	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk	

## Module 2: Use Basic English

Mapped to: Bridge Module

### Terminal Outcomes:

- Apply knowledge of basic English to interpret information received and respond accordingly.
- Recognise familiar words and basic phrases concerning self, family members and immediate workplace.
- Read and write simple sentences in English about self, activities planned and events of the day.

Duration: 27:00	Duration: 12:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Recognise words and phrases related to formal and informal greetings.</li> <li>• Recognise simple personal information about self and others when shared in writing (e.g., name, age, place of residence etc.).</li> <li>• Recognise very simple words related to home, neighbourhoods, everyday objects, market place, names of the days of the week, months, time, directions, clothes food and drinks.</li> <li>• Recognise simple pronouns (he/she/ we / they).</li> <li>• Comprehend basic hobby related verbs (like playing, singing, dancing).</li> <li>• Recognise common verbs related to movement of transport (e.g., buses run, boats sail).</li> <li>• Recognise words related to common feelings and emotions. (e.g., sad, unhappy, depressed, irritated, furious, angry).</li> <li>• Recognise familiar English words and phrases used in the workplace especially as instructions related to direction, safety instructions, date, and time etc. (vocabulary: stop, close the door etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Write basic personal information about self and others such as names, date of birth, ID numbers, address, nationality, marital status).</li> <li>• Use simple words related to common diseases in sentences (e.g., cold, cough, headache, fever, pain etc).</li> <li>• Write simple sentences using names of everyday objects, places, directions. (e.g., I live in Delhi.).</li> <li>• Write words related to professions. (like vacancy, sale, associate, manager, supervisor, file etc.).</li> <li>• Write words and short phrases to describe travel, holidays and vacations.</li> <li>• Frame written answer to simple questions related to self, food preferences, feelings etc.</li> <li>• Identify and read health, safety, security signage in English at works and public places or on gadgets and appliances when accompanied by related images or graphics.</li> <li>• Read basic familiar words and phrases to identify areas of work, responsibilities and working relationships.</li> <li>• Read and write simple sentences describing activities planned for the next day/week/month etc.</li> </ul>
Sample Classroom Aids	
Laptop, white board, marker, projector	
Tools, Equipment and Other Requirements	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk	

## Module 3: Personal and Social Skill

*Mapped to: Bridge Module*

### Terminal Outcomes:

- Manage Professional and Social behaviour.

<b>Duration: 09:00</b>	<b>Duration: 03:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the importance of professional appearance and behaviour at workplace.</li> <li>• Discuss the importance of following social etiquette in formal and informal settings.</li> <li>• Explain the principles of communication.</li> <li>• Discuss the barriers to effective communication and ways to overcome these.</li> <li>• Discuss the importance of managing stress.</li> </ul>	<ul style="list-style-type: none"> <li>• Display professional appearance.</li> <li>• Demonstrate formal and informal communication etiquettes/gestures/body language in dealing with seniors/peers or clients.</li> <li>• Demonstrate ways to manage stress as per choice like breathing exercises/ spending time with friends etc.</li> <li>• Create a method for stress management with reference to self by listing techniques/steps.</li> </ul>
<b>Classroom Aids</b>	
Laptop, white board, marker, projector	
<b>Tools, Equipment and Other Requirements</b>	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk	



## Module 4: Professional & Ethical Behavior in the Workplace

*Mapped to: Bridge Module*

### Terminal Outcomes:

- Maintain professional and ethical behavior in the work environment.

<b>Duration: 9:00</b>	<b>Duration: 03:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the importance of completing task/assignments on time/ by prioritizing.</li> <li>• Discuss the importance and challenges of teamwork in an organization to achieve goals.</li> <li>• Discuss the importance of seeking assistance from peers and supervisor when required.</li> <li>• Outline the importance of maintaining privacy and confidentiality.</li> <li>• Discuss situations that may lead to conflict of interest with peers/organization and ways to resolves them.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a work schedule prioritizing given tasks.</li> <li>• Demonstrate effective team behavior to accomplish a given task.</li> <li>• List activities/write application to seek assistance of supervisor/peers.</li> </ul>
<b>Classroom Aids</b>	
Laptop, white board, marker, projector	
<b>Tools, Equipment and Other Requirements</b>	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk	

## Module 5: Introduction and orientation to the role of a Field Technician Other Home Appliances

### Bridge Module

#### Terminal Outcomes:

- Discuss the job role of a Field Technician Other Home Appliances.

<b>Duration: 04:00</b>	<b>Duration: 00:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the size and scope of the electronic industry and its sub-sectors.</li> <li>• Discuss the role and responsibilities of a Field Technician Other Home Appliances.</li> <li>• Describe various employment opportunities for a Field Technician Other Home Appliances.</li> </ul>	
<b>Classroom Aids</b>	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
<b>Tools, Equipment and Other Requirements</b>	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk	

## Module 6: Process of engaging with customer with service

### Mapped to ELE/N3101 v2.0

#### Terminal Outcomes:

- Describe the process of interacting with customer.
- Explain how to Suggest possible solutions.

Duration: 20:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the company’s policies on code of conduct, organization’s culture, customer care, reporting structure and documentation policy.</li> <li>• Explain the company’s products and recurring problems reported in consumer appliances.</li> <li>• State the precautions to be taken while handling field calls and dealing with customers.</li> <li>• Explain the importance of personal grooming with proper etiquettes at the customer’s premises.</li> <li>• Explain the basic electrical, mechanical modules of various appliances and electronics involved in the type of appliance.</li> <li>• List models of different appliances, their common and distinguishing features, functionality of different features of appliances and new features.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to connect with the customer to confirm the problem telephonically and fix a time for the visit.</li> <li>• Show how to collect appropriate tools, parts, relevant reference sheets, manuals, and documents.</li> <li>• Show how to check about warranty status of the appliance and annual maintenance contract.</li> </ul>
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk	

## Module 7: Process of installing the water purifier

### Mapped to ELE/N3118 v2.0

#### Terminal Outcomes:

- Describe the process of performing pre-installation checks.
- Describe the process of preparing for installation of the appliance.
- Demonstrate the process of installing the water purifier and washing machine at customer location.
- Describe the process of diagnosing, repairing and replacing the faulty module of appliance.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the company’s policy on product’s warranty, sales, installation, after sales support policy and other terms and conditions.</li> <li>• Explain the installation site requirements (structural requirements, ventilation, etc.) with all safety precautions to be taken while installing.</li> <li>• Explain how to remove packaging without causing any damage to the purifier unit and accessories.</li> <li>• Explain the operation of tools such as electric drill, screw drivers, wrenches, tube cutters/benders, spanners, etc.</li> <li>• Explain how water flows through various switches, valves and different layers of filter.</li> <li>• Explain how to operate the water purifier, make appropriate settings after plugging in and use various features.</li> <li>• Discuss the procedure to fix various accessories and parts that have accompanied the unit.</li> <li>• Describe various types of water purifiers manufactured by the company.</li> <li>• Describe the manual-based procedure of installing the refrigerators/air conditioner/ washing machine/ water purifier.</li> <li>• Describe the requirements specified</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to remove the packaging from the appliance.</li> <li>• Demonstrate the process of disposing of the packaging material waste as per the company’s norms.</li> <li>• Show how to drill holes and ensure that no internal wiring damage is caused.</li> <li>• Show how to mount the filter and ensure that the screws are fastened securely.</li> <li>• Demonstrate how to drain the inlet line before connecting it to the water purifier and connect the outlet pipe to the drain.</li> <li>• Show how to connect the purifier to the nearest power supply point.</li> <li>• Show how to fill out the customer acknowledgement form.</li> <li>• Demonstrate how to document the work completed on the company ERP software for tracking.</li> </ul>

<p>in the instructions manual about positioning the water filter.</p> <ul style="list-style-type: none"> <li>• Explain the importance of proper placing.</li> </ul>	
<p><b>Classroom Aids</b></p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk</p>	

## Module 8: Process of repairing dysfunctional water purifier

Mapped to ELE/N3119 v2.0

### Terminal Outcomes:

- Describe the process of diagnosing fault in water purifier.
- Demonstrate the process of replacing/repairing dysfunctional module in water purifier.
- Describe the process of confirming functionality of repaired unit.

<b>Duration: 20:00</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>• Explain the water flow diagram and electrical circuit diagram of the appliance.</li> <li>• Describe the water purification process and different layers of filter present within the unit such as sediment filter, carbon block filter, TFC/TFM membrane, inline carbon filter etc.</li> <li>• Explain different technologies in water purification (such as reverse osmosis etc.)</li> <li>• Describe various parameters such as production rate, water chemistry, drain rate, input water, pressure/temperature etc.</li> <li>• List different types of water purifiers manufactured by the company and their respective features.</li> <li>• Explain the functioning of the appliance as well as the chemical and other properties of various filters of the appliance.</li> <li>• Explain basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs).</li> <li>• Explain the fundamentals of electricity such as ohms law, the difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections.</li> <li>• Describe the troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to diagnose the fault based on customer interaction, usage pattern and initial inspection.</li> <li>• Demonstrate the process of performing steps to shut off the system by turning off the water supply and unplugging the appliance to carry out further inspection.</li> <li>• Show how to avoid any water spills on the floor by placing a piece of cloth or towel under the unit.</li> <li>• Demonstrate the process of performing basic inspection of the feed water valve, tank valve, tubing, housing etc. to diagnose reasons for low/no water production.</li> <li>• Demonstrate how to detect worn-out auto shut off valves through symptoms such as loud vibrating noise, drain water never shutting off etc.</li> <li>• Demonstrate how to detect other problems such as clogged filters, storage tank problems, clogged flow resistor, inadequate/excessive water pressure, improper saddle valve mounting etc.</li> <li>• Demonstrate how to detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse.</li> <li>• Demonstrate the process of repairing/replacing component at the location.</li> </ul>

<p>knowledge with respect to water purifiers.</p> <ul style="list-style-type: none"> <li>• Describe various components/ modules of the water purifier and their functioning such as inlet valve, auto shut off valve, saddlevalve, housing, O ring, PCB and their prices.</li> <li>• List hazards that may occur during repairs, their causes and prevention/personal safety.</li> <li>• Describe other products of the company.</li> <li>• Explain how to operate/use TDS tester, tube cutter, tube bender, temperature meter, pressure gauges, wrenches, pliers, screw drivers.</li> <li>• Explain the company specified procedures to change filters, resin and membrane of different models of water purifier.</li> </ul>	
<p><b>Classroom Aids</b></p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools, LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk</p>	

## Module 9: Process of repairing dysfunctional mixer/juicer/grinder

Mapped to ELE/N3120 v2.0

### Terminal Outcomes:

- Describe the process of diagnosing fault in mixer/juicer/grinder.
- Demonstrate the process of replacing/repairing dysfunctional module in mixer/juicer/grinder.
- Describe the process of confirming functionality of repaired unit.

Duration: 25:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the damage free handling of the unit.</li> <li>• List different models of mixer/juicer/grinder along with their modules, features and functionalities.</li> <li>• Explain basic electrical fundamentals with regard to the functioning of motors, circuit breakers, etc.</li> <li>• Explain basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, lcs.</li> <li>• Explain the functioning of various electromechanical parts of the mixer/grinder</li> <li>• Explain fundamentals of electricity such as ohms law, difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections.</li> <li>• Describe troubleshooting knowledge with respect to small home appliances.</li> <li>• List various hazards, their causes and prevention/personal safety.</li> <li>• Explain energy ratings such BEE rating and concepts of e waste.</li> <li>• Explain the usage of multi-meter, clamp meter, tube cutter, tube bender, screw drivers, wrenches, pliers etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to unplug the appliance and turn the overload switch back to original position if the appliance turned off due to overload.</li> <li>• Demonstrate the process of performing basic tests such as power supply inspection, volt-ampere test and earth test power supply.</li> <li>• Show how to detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse.</li> <li>• Show how to diagnose the abnormal noise during use such as loose jar coupler, overloading of the jar, worn-out blade shaft, worn-out jar bush, worn out/ broken motor coupler.</li> <li>• Show how to diagnose reasons for appliance not running due to dysfunctional motor, overload circuit breaker tripping, no power supply etc.</li> <li>• Demonstrate how to detect problems in the indicator switch due to lack of power supply, tripping of overload circuit breaker etc.</li> <li>• Show how to fill the customer acknowledgement form.</li> </ul>



<b>Classroom Aids</b>
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop
<b>Tools, Equipment and Other Requirements</b>
Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools, LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk

## Module 10: Process of dysfunctional microwave oven

### Mapped to ELE/N3121 v2.0

#### Terminal Outcomes:

- Describe the process of diagnosing fault in Microwave.
- Demonstrate the process of replacing/repairing dysfunctional module in Microwave.
- Describe the process of confirming functionality of repaired unit.

Duration: 25:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the damage free handling of the unit.</li> <li>• List different models of microwaveovens and their features and functionalities.</li> <li>• Explain the basic electrical fundamentals with regard to functioning of motors, circuit breakers, etc.</li> <li>• Explain the basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs).</li> <li>• Explain the functioning of various electromechanical parts of the microwave.</li> <li>• Describe the fundamentals of electricity such as ohms law,difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections.</li> <li>• Explain how to diagnose the problem and fix dysfunctional appliance in designated time.</li> <li>• Describe the troubleshooting knowledge with respect to microwaves.</li> <li>• List hazards, their causes and prevention/personal safety</li> <li>• List frequently occurring faults such as intermittent heating, no heating, timing problem, display problem etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to unplug the appliance and turn the overload switch back to original position if the appliance turned off due to overload.</li> <li>• Demonstrate the process of performing basic tests such as power supply inspection, volt-ampere test and earth test power supply.</li> <li>• Show how to detect basic electrical faults or power problems such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse, open motor windings etc.</li> <li>• Show how to diagnose problem of oven running but not heating due to shorted diode, HV transformer or magnetron, damaged magnetron dome, magnetron insulator breakdown, shorted HV capacitor or HV wiring.</li> <li>• Demonstrate how to diagnosereasons of low heating due to ageing magnetron, cracked magnet, burned dome or magnetron insulator breakdown.</li> <li>• Show how to identify reasons for intermittent/uneven heating due to oxidised/burned connection to magnetron filament terminals, burned connector due to poor crimp or weakened connection.</li> <li>• Show how to detect other problems such as defective touch panel/keypad, defective control board, defective sensor unit, burned slip on connector, defective trial,</li> </ul>

<ul style="list-style-type: none"> <li>• Describe various energy ratings such BEE rating and concepts of e waste.</li> <li>• State the components/modules of different microwaves and their prices.</li> <li>• Explain the usage of multi-meter, clamp meter, microwave leakage detector, microwave power detector, thermometer, screwdriver etc.</li> </ul>	<p>open fuse/open HV capacitor, open HV diode etc.</p>
<p><b>Classroom Aids</b></p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools, LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk</p>	

## Module 11: Soft Skills and Work Ethics

### Mapped to ELE/N9905 v2.0

#### Terminal Outcomes:

- Work effectively at the workplace.
- Implement the practices related to gender and PwD sensitization.

Duration: 18:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• State the importance of work ethics and workplace etiquette</li> <li>• State the importance of effective communication and interpersonal skills.</li> <li>• Explain ways to maintain discipline at the workplace.</li> <li>• Discuss the common reasons for interpersonal conflict and ways of managing them effectively.</li> <li>• Discuss the importance of following organizational guidelines for dress code, time schedules, language usage and other behavioral aspects.</li> <li>• Explain the importance of working as per the workflow of the organization to receive instructions and report problems.</li> <li>• Explain the importance of conveying information/instructions as per defined protocols to the authorized persons/team members.</li> <li>• Explain the common workplace guidelines and legal requirements on non-disclosure and confidentiality of business-sensitive information.</li> <li>• Describe the process of reporting grievances and unethical conduct such as data breaches, sexual harassment at the workplace, etc.</li> <li>• Explain the concept and importance of gender sensitivity and equality.</li> <li>• Discuss ways to create sensitivity for different genders and Persons with Disabilities (PwD).</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a sample plan to achieve organizational goals and targets.</li> <li>• Create a sample feedback form to obtain feedback from customers, colleagues etc.</li> <li>• Roleplay to demonstrate the use of professional language and behavior that is respectful of PwD and all genders.</li> <li>• Apply organizational protocol on data confidentiality and sharing only with the authorized personnel.</li> </ul>

<ul style="list-style-type: none"> <li>• Discuss ways of dealing with heightened emotions of self and others.</li> </ul>	
<p><b>Classroom Aids</b></p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Sample Of Escalation Matrix, Organization Structure, LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let’s Talk</p>	

## Module 12: Basic Health and Safety Practice

### Mapped to ELE/N1002 v2.0

#### Terminal Outcomes:

- Apply health and safety practices at the workplace.

Duration: 18:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss job-site hazards, risks and accidents.</li> <li>• Explain the organizational safety procedures for maintaining electrical safety, handling tools and hazardous materials.</li> <li>• Elaborate on electronic waste disposal procedures.</li> <li>• Describe the process of disposal of hazardous waste</li> <li>• List the name and location of concerned people, documents and equipment for maintaining health and safety in the workplace.</li> <li>• Describe how to interpret warning signs while accessing sensitive work areas.</li> <li>• Explain the importance of good housekeeping.</li> <li>• Describe the importance of maintaining appropriate postures while lifting heavy objects.</li> <li>• List the types of fire and fire extinguishers.</li> <li>• Explain the importance of efficient utilisation of water, electricity and other resources.</li> <li>• List the common sources of pollution and ways to minimize it.</li> <li>• Describe the concept of waste management and methods of disposing hazardous waste.</li> <li>• Explain various warning and safety signs.</li> <li>• Describe different ways of preventing accidents at the workplace.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the use of protective equipment suitable as per tasks and work conditions.</li> <li>• Prepare a report to inform the relevant authorities about any abnormal situation/behaviour of any equipment/system.</li> <li>• Administer first aid in case of a minor accident.</li> <li>• Demonstrate the steps to free a person from electrocution safely.</li> <li>• Administer Cardiopulmonary Resuscitation (CPR).</li> <li>• Demonstrate the application of defined emergency procedures such as raising alarm, safe/efficient, evacuation, moving injured people, etc.</li> <li>• Prepare a sample incident report.</li> <li>• Use a fire extinguisher in case of a fire incident.</li> <li>• Demonstrate the correct method of lifting and handling heavy objects.</li> </ul>

### Classroom Aids

Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

### Tools, Equipment and Other Requirements

Personal Protection Equipment: Safety Glasses, Head Protection, Rubber Gloves, Safety Footwear, Warning Signs and Tapes, Fire Extinguisher, First Aid Kit, Fire Extinguishers and Warning Signs, LCD TV, Visual curricula, Assistive Aid/Service, Ai-Live, Captions First, Captions 2020, Closed Capp, Let's Talk

## Module 13: On-the-Job Training

### Mapped to Field Technician Other Home Appliances

<b>Mandatory Duration: 150:00</b>	<b>Recommended Duration: 00:00</b>
<b>Location: On Site</b>	
<p><b>Terminal Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Explain the use of appropriate tools, parts, relevant reference sheets, manuals, and documents.</li> <li>2. Disposing the packaging material waste as per the company's norms.</li> <li>3. Perform basic inspection of the feed water valve, tank valve, tubing, housing etc. to diagnose reasons for low/no water production</li> <li>4. Identify reasons for leaks in the filter housing due to loosen housing, damaged or misaligned or cracks in the housing</li> <li>5. Detect worn-out auto shut off valve through symptoms such as loud vibrating noise, drain water never shutting off etc.</li> <li>6. Detect other problems such as clogged filters, storage tank problems, clogged flow resistor, inadequate/excessive water pressure, improper saddle valve mounting etc.</li> <li>7. Detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse</li> <li>8. Inspect each module of the unit separately if the fault is not identified through basic tests.</li> <li>9. Communicating effectively at the workplace.</li> <li>10. Applying health and safety practices at the workplace.</li> </ol>	



## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma/ I.T.I	Electronics/ Mechanical / Electrical	1	Home Appliances	1 year preferably	Electronics	

Trainer Certification		
Domain Certification	Platform Certification	Disability specific Top Up training
<p><b>“Field Technician other Home Appliances”, “ELE/Q3104, v2.0”,</b> Minimum accepted score is 80%</p>	<p>“Trainer”, “MEP/Q2601” with a minimum score of 80%</p>	<p>The Inclusive Trainer should be certified in Disability Specific Top Up training PWD/Q0101, v1.0 Trainer-PwD conducted by SCPwD with minimum accepted score of 80% as per SCPwD guidelines.</p> <p>The Indian Sign Language Interpreter should be mandatory during the training, counselling and placement of Persons with Speech and Hearing Impairment. A Certification by Indian Sign Language Research and Training Centre (ISLRTC) or Ali Yavar Jung National Institute of Speech and Hearing Disabilities (Divyangjan) (AYJNISHD(D)) will be desirable.</p>

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma/ I.T.I	Electronics/ Mechanical / Electrical	2	Home Appliances	1 year preferably	Electronics	

Assessor Certification		
Domain Certification	Platform Certification	Disability specific Top Up training
“Field Technician Other Home Appliances”, “ELE/Q3104, v2.0”, Minimum accepted score is 80%	“Trainer”, “MEP/Q2601” with a minimum score of 80%	The Inclusive Assessor should be certified in Disability Specific TopUp Training conducted by SCPwD with minimum accepted score of 80% as per SCPwD guidelines.

## Assessment Strategy

### 1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- The assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

### 2. Testing Environment

To ensure a conducive environment for conducting a test, the trainer will:

- 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 10 a.m. and 5 p.m. respectively
- Ensure there are 2 Assessors if the batch size is more than 30.
- 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
- The assessor must be ToA certified and the trainer must be ToT Certified
- The assessment agency must follow the assessment guidelines to conduct the assessment

### 4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre 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:

To verify the details submitted by the training centre, the assessor will undertake:

- A surprise visit to the assessment location
- A random audit of the batch
- A random audit of any candidate

### 6. Method for assessment documentation, archiving, and access

To protect the assessment papers and information, the assessor will ensure:

- 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 on the Hard drive

## Guidelines for Trainer

Accommodation Guideline recommended for Inclusive Trainers

Persons with Speech and Hearing Impairment

### Characteristics

- Students with physical disabilities may experience limitations in one of the following ways:
- Writing.
- Sitting at a standard desk or on the floor.
- Participating in activities where tables and instruments are difficult to access.
- Movements within the class and within the school.
- Mobility in spaces that are not user friendly for wheelchair.

### Guidelines for Trainers

1. Provide a supportive and welcoming environment by sensitizing other students /staff for creating a sense of responsibility in them.
2. Make the classroom accessible.
3. Sitting plan should include accommodating a Person using Wheelchair in the front row.
4. Provide accessible seating arrangement. The height of the table should be accessible for Persons using wheelchair.
5. Make writers available for written work and for tests and exams if the candidate has difficulty in writing owing to upper limb dysfunction.
6. Give additional time for completing assignments/exams.
7. Consider alternative to activities involving writing, drawing and other fine motor activities, such as sorting, threading, solving puzzles, etc. for persons whose upper limbs are affected.
8. Free movement of learners within the class must be ensured by keeping the classroom environment clutter free. There should be accessible walking space for safe walking with no protruding objects or obstacles in the classroom/laboratory or corridors.
9. Students can use adapted brushes, modified pencils and thick markers that can be gripped easily, for drawing. Alternatively, the candidates can use stamping methods or paste cut outs. The books, papers, brushes etc. can be fixed on the table with the help of tape etc. so that they do not slip down.

# 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</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
<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
ISO	International Organization for Standardization
NCO	National Occupational Standards
NOS	National Skills Qualification Committee
NSQF	National Skills Qualification Framework
OJT	On-the-Job Training
OMR	Optical Mark Recognition
PC	Performance Criteria
PwD	Persons with Disabilities
QP	Qualification Pack
SDMS	Skill Development & Management System
SIP	Skill India Portal
SME	Small and Medium Enterprises
SOP	Standard Operating Procedure
SSC	Sector Skill Council
TC	Trainer Certificate
ToA	Training of Assessors
ToT	Training of Trainers
TP	Training Provider