



Model Curriculum

QP Name: Field Technician - Kitchen Appliances

QP Code: ELE/Q3104

QP Version: 4.0

NSQF Level: 4

Model Curriculum Version: 4.0

Electronics Sector Skills Council of India || 155, 2nd Floor, ESC House, Okhla Industrial Area- Phase 3, New Delhi- 110020

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Training Parameters

Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7421.0701
Minimum Educational Qualification and Experience	12th grade or equivalent OR 10th grade or equivalent with 3 years of experience OR Certificate-NSQF (Level-3 in relevant domain) with 3 Years of relevant Experience # Relevant experience in Consumer Electronics & IT Hardware
Pre-Requisite License or Training	NA
Minimum Job Entry Age	NA
Last Reviewed On	07/10/2025
Next Review Date	07/10/2028
NSQC Approval Date	07/10/2025
QP Version	4.0
Model Curriculum Creation Date	07/10/2025
Model Curriculum Valid Up to Date	07/10/2028
Model Curriculum Version	4.0
Minimum Duration of the Course	540 Hours
Maximum Duration of the Course	540 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
ELE/N3101: Engage with customer with service	30:00	30:00	00:00	30:00	90:00
Module 1: Process of engaging with customer with service	30:00	30:00	00:00	30:00	90:00
ELE/N3196: Perform Installation & Repairing of Water Purifier	30:00	30:00	00:00	30:00	90:00
Module 2: Process of installing and repairing the water purifier	30:00	30:00	00:00	30:00	90:00
ELE/N3197: Perform Repairing of Mixer/Juicer/Grinder	30:00	45:00	00:00	30:00	105:00

Module 3: Process of repairing dysfunctional Mixer/Juicer/Grinder	30:00	45:00	00:00	30:00	105:00
ELE/N3198: Perform Repairing of Microwave Oven	30:00	60:00	00:00	30:00	120:00
Module 4: Process of repairing dysfunctional Microwave Oven	30:00	60:00	00:00	30:00	120:00
ELE/N3199: Perform Repairing of Induction Cooktop	30:00	45:00	00:00	30:00	105:00
Module 5: Process of dysfunctional Induction Cooktop	30:00	30:00	00:00	30:00	90:00
DGT/VSQ/N0102- Employability Skills (60 Hours)	30:00	00:00	00:00	00:00	30:00
Module 6: Employability Skills (30 Hours)	30:00	00:00	00:00	00:00	30:00
Total Duration	180:00	210:00	00:00	150:00	540:00

Module Details

Module 1: Process of engaging with customer with service

Mapped to ELE/N3101

Terminal Outcomes:

- Introduction to the role and responsibilities of Field Technician – Kitchen Appliances.
- Describe the process of interacting with customer.
- Explain how to Suggest possible solutions.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Explain the company's policies on code of conduct, organisation's culture, customer care, reporting structure and documentation policy. • Explain the company's products and recurring problems reported in consumer appliances. • connect with the customer use the mobile CRM apps and digital service platforms to confirm problem telephonically and fix time for visit • State the precautions to be taken while handling field calls and dealing with customers. • Explain the importance of personal grooming with proper etiquettes at the customer's premises. • Explain the basic electrical, mechanical modules of various appliances and electronics involved in the type of appliance. • List models of different appliances, their common and distinguishing features, functionality of different features of appliances and new features.	• Demonstrate how to connect with the customer to confirm the problem telephonically and fix a time for the visit. • Show how to collect appropriate tools, parts, relevant reference sheets, manuals and documents. • Show how to check about warranty status of the appliance and annual maintenance contract.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of installing the water purifier

Mapped to ELE/N3196

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: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Explain the company's policy on product's warranty, sales, installation, after sales support policy and other terms and conditions. • Explain the installation site requirements (structural requirements, ventilation, etc.) with all safety precautions to be taken while installing. • Explain how to remove packaging without causing any damage to the purifier unit and accessories. • Explain the operation of tools such as electric drill, screw drivers, wrenches, tube cutters/benders, spanners, etc. • Explain how water flows through various switches, valves and different layers of filter. • Explain how to operate the water purifier, make appropriate settings after plugging in and use various features. • Discuss the procedure to fix various accessories and parts that have accompanied the unit. • Describe various types of water purifiers manufactured by the company. • Describe the manual-based procedure of installing the refrigerators/air conditioner/ washing machine/ water purifier. • Describe the requirements specified	• Show how to remove the packaging from the appliance. • Demonstrate the process of disposing of the packaging material waste as per the company's norms. • Show how to drill holes and ensure that no internal wiring damage is caused. • Show how to mount the filter and ensure that the screws are fastened securely. • Demonstrate how to drain the inlet line before connecting it to the water purifier and connect the outlet pipe to the drain. • Show how to connect the purifier to the nearest power supply point. • Show how to fill out the customer acknowledgement form. • Demonstrate how to document the work completed on the company ERP software for tracking.

in the instructions manual about positioning the water filter. • Explain the importance of proper placing.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools	

Module 3: Process of repairing dysfunctional Mixer/Juicer/Grinder

Mapped to ELE/N3197

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.

Duration: 30:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Explain the water flow diagram and electrical circuit diagram of the appliance. • 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. • Explain different technologies in water purification (such as reverse osmosis etc.) • Describe various parameters such as production rate, water chemistry, drain rate, input water, pressure/temperature etc. • List different types of water purifiers manufactured by the company and their respective features. • Explain the functioning of the appliance as well as the chemical and other properties of various filters of the appliance. • Explain basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs). • 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. • Describe the troubleshooting	• Demonstrate how to diagnose the fault based on customer interaction, usage pattern and initial inspection. • 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. • Show how to avoid any water spills on the floor by placing a piece of cloth or towel under the unit. • 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. • Demonstrate how to detect worn-out auto shut off valves through symptoms such as loud vibrating noise, drain water never shutting off etc. • 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. • 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. • Demonstrate the process of repairing/replacing component at the location.

knowledge with respect to water purifiers. - Describe various components/modules of the water purifier and their functioning such as inlet valve, auto shut off valve, saddle valve, housing, O ring, PCB and their prices. - List hazards that may occur during repairs, their causes and prevention/personal safety. - Describe other products of the company. - Explain how to operate/use TDS tester, tube cutter, tube bender, temperature meter, pressure gauges, wrenches, pliers, screw drivers. - Explain the company specified procedures to change filters, resin and membrane of different models of water purifier.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools	

Module 4: Process of repairing dysfunctional microwave oven

Mapped to ELE/N3198

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: 30:00	Duration: 60:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Explain the damage free handling of the unit. • List different models of mixer/juicer/grinder along with their modules, features and functionalities. • Explain basic electrical fundamentals with regard to the functioning of motors, circuit breakers, etc. • Explain basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, lcs. • Explain the functioning of various electromechanical parts of the mixer/grinder • 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. • Describe troubleshooting knowledge with respect to small home appliances. • List various hazards, their causes and prevention/personal safety. • Explain energy ratings such BEE rating and concepts of e waste. • Explain the usage of multi-meter, clamp meter, tube cutter, tube bender, screw drivers, wrenches, pliers etc.	• Show how to unplug the appliance and turn the overload switch back to original position if the appliance turned off due to overload. • Demonstrate the process of performing basic tests such as power supply inspection, volt-ampere test and earth test power supply. • 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. • 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. • Show how to diagnose reasons for appliance not running due to dysfunctional motor, overload circuit breaker tripping, no power supply etc. • Demonstrate how to detect problems in the indicator switch due to lack of power supply, tripping of overload circuit breaker etc. • Show how to fill the customer acknowledgement form.

Classroom Aids
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop
Tools, Equipment and Other Requirements
Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools

Module 5: Process of dysfunctional Induction Cooktop

Mapped to ELE/N3199

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: 30:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Explain the damage free handling of the unit. • List different models of microwave ovens and their features and functionalities. • Explain the basic electrical fundamentals with regard to functioning of motors, circuit breakers, etc. • Explain the basic electronics (knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs). • Explain the functioning of various electromechanical parts of the microwave. • 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. • Explain how to diagnose the problem and fix dysfunctional appliance in designated time. • Describe the troubleshooting knowledge with respect to microwaves. • List hazards, their causes and prevention/personal safety • List frequently occurring faults such as intermittent heating, no heating, timing problem, display problem etc.	• Show how to unplug the appliance and turn the overload switch back to original position if the appliance turned off due to overload. • Demonstrate the process of performing basic tests such as power supply inspection, volt-ampere test and earth test power supply. • 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. • 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. • Demonstrate how to diagnose reasons of low heating due to ageing magnetron, cracked magnet, burned dome or magnetron insulator breakdown. • 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. • Show how to detect other problems such as defective touch panel/keypad, defective control board, defective sensor unit, burned slip on connector, defective trial,

- Describe various energy ratings such as BEE rating and concepts of e waste. - State the components/modules of different microwaves and their prices. - Explain the usage of multi-meter, clamp meter, microwave leakage detector, microwave power detector, thermometer, screwdriver etc.	open fuse/open HV capacitor, open HV diode etc.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Multimeter (Analog), Multimeter (Digital), Water Pressure Gauge, TDS Meter, Hand Tools, Maintenance Tools	

Module 6: Employability Skills (30 Hours)

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements
- Describe opportunities as an entrepreneur.
- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: 30:00	Duration: 00:00
Theory - Key Learning Outcomes	Practical - Key Learning Outcomes
• Explain constitutional values, civic rights, responsibility towards society to become a responsible citizen • Discuss 21st century skills • Explain use of basic English phrases and sentences. • Demonstrate how to communicate in a well-behaved manner • Demonstrate how to work with others • Demonstrate how to operate digital devices • Discuss the significance of Internet and Computer/ Laptops • Discuss the need for identifying business opportunities • Discuss about types of customers. • Discuss on creation of biodata • Discuss about apprenticeship and opportunities related to it.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Computer, UPS, Scanner, Computer Tables, LCD Projector, Computer Chairs, White Board	
OR	
Computer Lab	

Module 7: On-the-Job Training

Mapped to Field Technician - Kitchen Appliances

Mandatory Duration: 150:00	Recommended Duration: 00:00
Location: On Site	
Terminal Outcomes 1. Explain the use of appropriate tools, parts, relevant reference sheets, manuals and documents. 2. Disposing the packaging material waste as per the company's norms. 3. Perform basic inspection of the feed water valve, tank valve, tubing, housing etc. to diagnose reasons for low/no water production 4. Identify reasons for leaks in the filter housing due to loose housing, damaged or misaligned Oring, cracks in the housing 5. Detect worn-out auto shut off valve through symptoms such as loud vibrating noise, drain water never shutting off etc. 6. Detect other problems such as clogged filters, storage tank problems, clogged flow resistor, inadequate/excessive water pressure, improper saddle valve mounting etc. 7. Detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse 8. Inspect each module of the unit separately if the fault is not identified through basic tests. 9. Communicating effectively at the workplace. 10. Applying health and safety practices at the workplace.	

Annexure

Trainer Requirements

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

Trainer Certification	
Domain Certification	Platform Certification
“Field Technician - Kitchen Appliances”, “ELE/Q3104, v4.0”, Minimum accepted score is 80%	Recommended that the Trainer is certified for the Field Technician - Kitchen Appliances “Trainer (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2601, V2.0”, with minimum score of 80%

Assessor Requirements

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

Assessor Certification	
Domain Certification	Platform Certification
“Field Technician - Kitchen Appliances”, “ELE/Q3104, v4.0”, Minimum accepted score is 80%	Recommended that the Assessor is certified for the Field Technician - Kitchen Appliances “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, V2.0”, with minimum score of 80%

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

References

Glossary

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

Acronyms and Abbreviations

Term	Description
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