Qualification Pack

Field Technician - Kitchen Appliances

QP Code: ELE/Q3104

Version: 4.0

NSQF Level: 4

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

Qualification Pack

ELE/Q3104: Field Technician - Kitchen Appliances

Brief Job Description

Field Technician is responsible for interacting with the customer to install the appliance as well as diagnose the problem. The individual also needs to assess possible causes of fault reported and rectify problems/faults

Personal Attributes

The individual must be willing to work in the field and travel through the day from one customer premise to another. The individual must also possess important attributes such as punctuality, amenable behaviour, patience, good interpersonal relationship building, trustworthiness, integrity, and critical thinking.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ELE/N3101: Engage with customer for service
2. ELE/N3196: Perform Installation & Repairing of Water Purifier
3. ELE/N3197: Perform Repairing of Mixer/Juicer/Grinder
4. ELE/N3198: Perform Repairing of Microwave Oven
5. ELE/N3199: Perform Repairing of Induction Cooktop
6. DGT/VSQ/N0101: Employability Skills (30 Hours)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
Country	India
NSQF Level	4
Credits	18

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Aligned to NCO/ISCO/ISIC Code	NCO-2015/7421.0701
Minimum Educational Qualification & Experience	12th grade Pass (12th grade or equivalent) with NA of experience
Minimum Level of Education for Training in School	8th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	NA
Next Review Date	07/10/2028
NSQC Approval Date	07/10/2025
Version	4.0
Reference code on NQR	QG-04-EH-044982025-V2-ESSCI
NQR Version	2

Remarks:

NA

ELE/N3101: Engage with customer for service

Description

This NOS deals with customer interactions by identifying issues, scheduling visits, preparing for service, verifying warranty, gathering appliance details, explaining findings, suggesting solutions, and obtaining consent for repairs

Scope

The scope covers the following :

- Introduction and Interact with the customer
- Suggest possible solutions

Elements and Performance Criteria

Introduction and Interact with the customer

To be competent, the user/individual on the job must be able to:

PC1. Discuss the appliance installation and reported issues with the customer, assess possible causes of faults, and rectify the problems effectively

PC2. analyze the details of customer complaint registered at customer care or installation schedule and connect with the customer use the mobile CRM apps and digital service platforms to confirm problem telephonically and fix time for visit

PC3. collect appropriate tools, parts, relevant reference sheets, manuals and documents

PC4. visit the customer premises as per the scheduled date and time for service as per the requirement

PC5. check about warranty status of appliance and annual maintenance contract

PC6. gather detailed information pertaining to age of appliance, status of upkeep, symptoms and history of problems in the appliance

PC7. provide information to the customer about the warranty and problem in detail along with the precautions to be taken in order to avoid recurrence of problem

Suggest possible solutions

To be competent, the user/individual on the job must be able to:

PC8. suggest possible solutions with the time required, costs involved and methodology for servicing

PC9. seek customer’s approval on further action

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand the role and responsibilities involved in customer interaction during appliance installation and service

KU2. Know how to use mobile CRM apps and digital service platforms for logging complaints and scheduling visits

KU3. Understand warranty and annual maintenance contract policies related to appliance service

KU4. Know procedures for identifying appliance issues through customer discussion and initial inspection

KU5. Understand documentation and communication protocols for explaining service scope cost and preventive measures to customers

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Communicate politely and effectively with customers to identify and confirm appliance issues

GS2. Use digital tools and CRM applications to plan schedule and record service activities

GS3. Analyze fault symptoms and suggest accurate solutions within time and cost limits

GS4. Maintain proper documentation and obtain customer approval before starting work

GS5. Ensure customer satisfaction through clear explanation of service performed and preventive guidance

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction and Interact with the customer	**32**	**41**	**-**	**8**
PC1. Discuss the appliance installation and reported issues with the customer, assess possible causes of faults, and rectify the problems effectively	-	-	-	-
PC2. analyze the details of customer complaint registered at customer care or installation schedule and connect with the customer use the mobile CRM apps and digital service platforms to confirm problem telephonically and fix time for visit	-	-	-	-
PC3. collect appropriate tools, parts, relevant reference sheets, manuals and documents	-	-	-	-
PC4. visit the customer premises as per the scheduled date and time for service as per the requirement	-	-	-	-
PC5. check about warranty status of appliance and annual maintenance contract	-	-	-	-
PC6. gather detailed information pertaining to age of appliance, status of upkeep, symptoms and history of problems in the appliance	-	-	-	-
PC7. provide information to the customer about the warranty and problem in detail along with the precautions to be taken in order to avoid recurrence of problem	-	-	-	-
Suggest possible solutions	**8**	**9**	**-**	**2**
PC8. suggest possible solutions with the time required, costs involved and methodology for servicing	-	-	-	-
PC9. seek customer's approval on further action	-	-	-	-
NOS Total	**40**	**50**	**-**	**10**

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3101
NOS Name	Engage with customer for service
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	4
Credits	3
Version	5.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ELE/N3196: Perform Installation & Repairing of Water Purifier

Description

This NOS covers performing installation, maintenance, and repair of water purifiers to ensure proper functioning, water quality, and customer satisfaction.

Scope

The scope covers the following :

- Perform Pre-Installation Checks
- Test,Configure and Demonstrate Usage
- Post-Installation Activities
- Diagnose and Repair Functional Issues

Elements and Performance Criteria

Perform Pre-Installation Checks

To be competent, the user/individual on the job must be able to:

PC1. Visit customer location as scheduled and evaluate space, power supply, water inlet, drainage, and mobile signal (for smart purifier connectivity).

PC2. Carry required tools and ensure site meets installation conditions including TDS level compatibility, water pressure, and inlet pipe fitting.

PC3. Confirm customer preference (UTS/wall-mounted/hot-cold dispensing) and finalize installation spot based on purifier type and functionality.

PC4. Inform customer of any prerequisite plumbing/electrical/structural tasks.

PC5. Unpack, verify model, accessories (e.g., pre-filters, alkaline cartridge), and readiness of tools and fittings.

PC6. Drill and mount as per model type (RO/UV/UF/Alkaline/IoT) and install pre-filter if required.

PC7. Connect plumbing (inlet/outlet), power cord, and app (if smart model); activate auto-flush/self-cleaning if applicable.

Test,Configure and Demonstrate Usage

To be competent, the user/individual on the job must be able to:

PC8. Power on the unit, check for leaks, validate TDS levels and pressure, and test advanced functions (UV lamp, hot water, app sync).

PC9. Explain filter stages, display alerts, app usage (for IoT models), and demonstrate auto-shutoff/maintenance indicators.

Post-Installation Activities

To be competent, the user/individual on the job must be able to:

PC10. Provide instructions on filter replacement, servicing schedule, and water quality maintenance.

PC11. Escalate unresolved issues (e.g., sensor failure, connectivity problems) to the supervisor.

PC12. Complete all documentation (ERP entry, forms, app registration if required), and obtain customer acknowledgment.

Diagnose and Repair Functional Issues

To be competent, the user/individual on the job must be able to:

PC13. Identify faults in filtration (e.g., low flow, bad taste, high TDS), electronics (e.g., display not working), or leakage.

PC14. Repair/replace faulty components like RO membrane, UV lamp, solenoid valve, SMPS, circuit board, motor, or sensors.

PC15. Reconfigure device settings post-repair (e.g., reconnect app, reset TDS, calibrate sensors), and validate with customer

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand the installation requirements of different types of water purifiers including RO UV UF Alkaline and IoT models

KU2. Know how to evaluate site conditions such as water pressure TDS level drainage and power supply before installation

KU3. Understand the functionality of key purifier components like pre filter RO membrane UV lamp and sensors

KU4. Know procedures for plumbing electrical and app connectivity tasks during installation and testing

KU5. Understand documentation requirements and escalation procedures for unresolved technical or connectivity issues

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Apply correct tools and procedures for safe and efficient installation of water purifiers

GS2. Communicate effectively with customers to confirm preferences and explain purifier operation

GS3. Perform leak testing TDS verification and system configuration accurately before handover

GS4. Maintain clean organized work practices and complete documentation as per company standards

GS5. Diagnose repair and validate purifier performance ensuring customer satisfaction and compliance with quality norms

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform Pre-Installation Checks	**19**	**22**	**-**	**4**
PC1. Visit customer location as scheduled and evaluate space, power supply, water inlet, drainage, and mobile signal (for smart purifier connectivity).	-	-	-	-
PC2. Carry required tools and ensure site meets installation conditions including TDS level compatibility, water pressure, and inlet pipe fitting.	-	-	-	-
PC3. Confirm customer preference (UTS/wall-mounted/hot-cold dispensing) and finalize installation spot based on purifier type and functionality.	-	-	-	-
PC4. Inform customer of any prerequisite plumbing/electrical/structural tasks.	-	-	-	-
PC5. Unpack, verify model, accessories (e.g., pre-filters, alkaline cartridge), and readiness of tools and fittings.	-	-	-	-
PC6. Drill and mount as per model type (RO/UV/UF/Alkaline/IoT) and install pre-filter if required.	-	-	-	-
PC7. Connect plumbing (inlet/outlet), power cord, and app (if smart model); activate auto-flush/self-cleaning if applicable.	-	-	-	-
Test,Configure and Demonstrate Usage	**7**	**9**	**-**	**2**
PC8. Power on the unit, check for leaks, validate TDS levels and pressure, and test advanced functions (UV lamp, hot water, app sync).	-	-	-	-
PC9. Explain filter stages, display alerts, app usage (for IoT models), and demonstrate auto-shutoff/maintenance indicators.	-	-	-	-
Post-Installation Activities	**7**	**9**	**-**	**2**
PC10. Provide instructions on filter replacement, servicing schedule, and water quality maintenance.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Escalate unresolved issues (e.g., sensor failure, connectivity problems) to the supervisor.	-	-	-	-
PC12. Complete all documentation (ERP entry, forms, app registration if required), and obtain customer acknowledgment.	-	-	-	-
Diagnose and Repair Functional Issues	**7**	**10**	**-**	**2**
PC13. Identify faults in filtration (e.g., low flow, bad taste, high TDS), electronics (e.g., display not working), or leakage.	-	-	-	-
PC14. Repair/replace faulty components like RO membrane, UV lamp, solenoid valve, SMPS, circuit board, motor, or sensors.	-	-	-	-
PC15. Reconfigure device settings post-repair (e.g., reconnect app, reset TDS, calibrate sensors), and validate with customer	-	-	-	-
NOS Total	**40**	**50**	**-**	**10**

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3196
NOS Name	Perform Installation & Repairing of Water Purifier
Sector	Electronics
Sub-Sector	
Occupation	After Sales Service
NSQF Level	4
Credits	3
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ELE/N3197: Perform Repairing of Mixer/Juicer/Grinder

Description

This NOS covers diagnosing faults and performing repair, replacement, and testing of mixer, juicer, and grinder components to restore optimal performance.

Scope

The scope covers the following :

- Diagnose fault in mixer/juicer/grinder
- Replace/repair dysfunctional module in mixer/juicer/grinder
- Confirm functionality of repaired unit

Elements and Performance Criteria

Diagnose fault in mixer/juicer/grinder

To be competent, the user/individual on the job must be able to:

PC1. Diagnose faults based on customer interaction, usage pattern (e.g. heavy-duty blending, food processing, juicing) and initial inspection, including smart display errors if present

PC2. Unplug the appliance and reset the overload switch or electronic safety lock to original state if triggered

PC3. Perform basic tests including voltage level check, ampere draw test, grounding test, and check smart diagnostics if available

PC4. Detect common electrical faults such as improper/no earthing, damaged power cord, defective switch panel or PCB, internal wiring issues, loose connectors, and blown fuses

PC5. Identify reasons for unusual sound or vibration during operation such as damaged coupler, unbalanced blade, worn-out bearings, loose jar lock, or motor alignment issues

PC6. Diagnose non-start conditions due to motor burnout, faulty speed control module, tripped safety switch, smart sensor errors, or power issues

PC7. Check for causes of jar content overflow or leakage such as improper lid fitting, damaged silicone gasket, sensor failure in auto-lock lid, or overloading in high-speed modes

PC8. Examine indicator panel or touchscreen for fault messages, LED codes, or app-based diagnostics if present

PC9. Test each module (motor unit, jar sensors, control board) individually when faults are not found through general checks

PC10. Escalate or send the appliance to factory service if faults involve embedded electronics or require advanced diagnostics not feasible on-site

Replace/repair dysfunctional module in mixer/juicer/grinder

To be competent, the user/individual on the job must be able to:

PC11. Replace/repair faulty components like electronic control board, relay, temperature sensor, or timer at location using correct ESD precautions

PC12. Reschedule service if spare parts (e.g. smart PCB, non-standard jars, digital speed knob) are unavailable at site

PC13. Reassemble and verify that all components (e.g. jars with interlocks, smart lids, touchscreen panel) are functioning as per specifications

Confirm functionality of repaired unit

To be competent, the user/individual on the job must be able to:

PC14. Demonstrate smooth operation of the appliance across all functions (grinding, juicing, food processing, smart modes) and validate through customer usage test

PC15. Explain safe handling of high-speed modes, jar locking mechanism, cleaning procedures for blade and sensors, and proper care of digital panels

PC16. Fill in digital or physical customer acknowledgment including QR-code warranty or AMC registration if applicable

PC17. Complete complaint/service documentation, including logging in service app or company CRM

PC18. Collect payment digitally or in cash as per organizational policy and issue invoice

PC19. Promote and inform the customer about new models, compatible accessories (multi-jar sets, spare lids), and AMC plans through app or catalog

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand the working principles and components of mixer juicer grinder systems including motor control board sensors and jars

KU2. Know common electrical and mechanical faults such as loose wiring damaged couplers worn bearings or blown fuses

KU3. Understand testing methods using tools like multimeter amp meter and grounding tester for voltage and current checks

KU4. Know procedures for identifying and replacing faulty modules like PCB relay temperature sensor or timer

KU5. Understand documentation warranty and customer acknowledgment procedures after repair or replacement

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Apply systematic diagnostic and testing methods to identify electrical and mechanical faults accurately

GS2. Handle and replace components using correct ESD precautions and standard safety practices

GS3. Communicate effectively with customers to explain faults repairs and safe usage of the appliance

GS4. Maintain cleanliness proper tool usage and complete service documentation as per company process

GS5. Demonstrate repaired unit functionality ensure customer satisfaction and promote accessories or AMC plans

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose fault in mixer/juicer/grinder	**24**	**34**	**-**	**8**
PC1. Diagnose faults based on customer interaction, usage pattern (e.g. heavy-duty blending, food processing, juicing) and initial inspection, including smart display errors if present	-	-	-	-
PC2. Unplug the appliance and reset the overload switch or electronic safety lock to original state if triggered	-	-	-	-
PC3. Perform basic tests including voltage level check, ampere draw test, grounding test, and check smart diagnostics if available	-	-	-	-
PC4. Detect common electrical faults such as improper/no earthing, damaged power cord, defective switch panel or PCB, internal wiring issues, loose connectors, and blown fuses	-	-	-	-
PC5. Identify reasons for unusual sound or vibration during operation such as damaged coupler, unbalanced blade, worn-out bearings, loose jar lock, or motor alignment issues	-	-	-	-
PC6. Diagnose non-start conditions due to motor burnout, faulty speed control module, tripped safety switch, smart sensor errors, or power issues	-	-	-	-
PC7. Check for causes of jar content overflow or leakage such as improper lid fitting, damaged silicone gasket, sensor failure in auto-lock lid, or overloading in high-speed modes	-	-	-	-
PC8. Examine indicator panel or touchscreen for fault messages, LED codes, or app-based diagnostics if present	-	-	-	-
PC9. Test each module (motor unit, jar sensors, control board) individually when faults are not found through general checks	-	-	-	-
PC10. Escalate or send the appliance to factory service if faults involve embedded electronics or require advanced diagnostics not feasible on-site	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Replace/repair dysfunctional module in mixer/juicer/grinder	**6**	**10**	**-**	**1**
PC11. Replace/repair faulty components like electronic control board, relay, temperature sensor, or timer at location using correct ESD precautions	-	-	-	-
PC12. Reschedule service if spare parts (e.g. smart PCB, non-standard jars, digital speed knob) are unavailable at site	-	-	-	-
PC13. Reassemble and verify that all components (e.g. jars with interlocks, smart lids, touchscreen panel) are functioning as per specifications	-	-	-	-
Confirm functionality of repaired unit	**10**	**6**	**-**	**1**
PC14. Demonstrate smooth operation of the appliance across all functions (grinding, juicing, food processing, smart modes) and validate through customer usage test	-	-	-	-
PC15. Explain safe handling of high-speed modes, jar locking mechanism, cleaning procedures for blade and sensors, and proper care of digital panels	-	-	-	-
PC16. Fill in digital or physical customer acknowledgment including QR-code warranty or AMC registration if applicable	-	-	-	-
PC17. Complete complaint/service documentation, including logging in service app or company CRM	-	-	-	-
PC18. Collect payment digitally or in cash as per organizational policy and issue invoice	-	-	-	-
PC19. Promote and inform the customer about new models, compatible accessories (multi-jar sets, spare lids), and AMC plans through app or catalog	-	-	-	-
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3197
NOS Name	Perform Repairing of Mixer/Juicer/Grinder
Sector	Electronics
Sub-Sector	
Occupation	After Sales Service
NSQF Level	4
Credits	3.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ELE/N3198: Perform Repairing of Microwave Oven

Description

This NOS covers diagnosing issues and performing repair, replacement, and testing of microwave oven components to ensure safe and efficient operation

Scope

The scope covers the following :

- Diagnose fault in microwave
- Replace/repair dysfunctional module in microwave
- Confirm functionality of repaired unit

Elements and Performance Criteria

Diagnose fault in microwave

To be competent, the user/individual on the job must be able to:

PC1. Diagnose faults based on customer interaction and usage pattern, including features such as inverter-based cooking, convection/grill usage, auto-cook programs, or app-based controls.

PC2. Unplug the appliance and ensure safe disconnection before initiating inspection and fault diagnosis.

PC3. Perform essential electrical tests like voltage, current, and earthing checks, and test for consistent power output in inverter-based systems.

PC4. Detect electrical or power faults such as improper/no earth, damaged power cord, surge damage, faulty power PCB, or loose/open contacts, especially in smart or digital units.

PC5. Diagnose no-heating issues due to inverter circuit failure, HV diode/capacitor breakdown, magnetron failure, faulty transformer, or blown fuses in traditional or inverter types.

PC6. Identify low-heating problems caused by ageing magnetron, cracked magnets, damaged dome, or inverter board issues.

PC7. Identify intermittent heating or sensor-based failures due to oxidized connections, burned terminals, or faulty inverter output control.

PC8. Detect touch panel or display malfunctions, faulty control boards, sensor errors (e.g. temperature/humidity), and software glitches in programmable or smart microwaves.

PC9. Inspect individual modules (e.g., inverter board, control PCB, sensor board, power supply) when fault is not evident through initial checks.

PC10. Forward the unit to an authorized service center for advanced component testing, firmware issues, or factory-only repairs.

Replace/repair dysfunctional module in microwave

To be competent, the user/individual on the job must be able to:

PC11. Replace/repair components like inverter PCBs, control boards, relays, sensors, or heating elements at site if diagnosed and parts are available.

PC12. Schedule follow-up service if specific smart control boards, inverter units, or grill/convection parts are not immediately available.

PC13. Reassemble unit and verify full functionality of all systems, including heating modes, smart sensors, fan motors, touch controls, and app connectivity if applicable.

Confirm functionality of repaired unit

To be competent, the user/individual on the job must be able to:

PC14. Demonstrate all features post-repair: microwave, grill, convection modes, digital touch interface, auto-cook programs, and mobile app control (if supported).

PC15. Instruct customer on cleaning procedures for sensors, grill elements, and fan filters; guide on regular maintenance and safe usage of inverter/convection features.

PC16. Obtain digital or written customer acknowledgment and satisfaction confirmation.

PC17. Complete service documentation including digital logs, firmware updates (if done), and repair summary.

PC18. Collect payment and issue invoice via app or POS system, if applicable.

PC19. Recommend AMCs or upsell accessories like grill stands, microwave-safe containers, or upgraded models if the unit is outdated.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand working principles of microwave oven types including inverter convection grill and smart app-based systems

KU2. Know common electrical and electronic faults such as magnetron failure inverter circuit issue power PCB fault or loose connections

KU3. Understand use of testing tools to measure voltage current earthing and inverter output safely

KU4. Know replacement procedures for modules like inverter board control PCB sensor or heating element following manufacturer standards

KU5. Understand documentation repair reporting and customer acknowledgment process after service completion

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Diagnose electrical and electronic faults systematically using proper testing tools and techniques

GS2. Handle repair and replacement tasks safely by following electrical safety and ESD precautions

GS3. Communicate clearly with customers to explain problems solutions and safe usage of the appliance

GS4. Maintain organized workflow ensuring accurate documentation and quality service delivery

GS5. Demonstrate repaired microwave functions ensure customer satisfaction and promote AMC or accessories

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose fault in microwave	**24**	**34**	**-**	**8**
PC1. Diagnose faults based on customer interaction and usage pattern, including features such as inverter-based cooking, convection/grill usage, auto-cook programs, or app-based controls.	-	-	-	-
PC2. Unplug the appliance and ensure safe disconnection before initiating inspection and fault diagnosis.	-	-	-	-
PC3. Perform essential electrical tests like voltage, current, and earthing checks, and test for consistent power output in inverter-based systems.	-	-	-	-
PC4. Detect electrical or power faults such as improper/no earth, damaged power cord, surge damage, faulty power PCB, or loose/open contacts, especially in smart or digital units.	-	-	-	-
PC5. Diagnose no-heating issues due to inverter circuit failure, HV diode/capacitor breakdown, magnetron failure, faulty transformer, or blown fuses in traditional or inverter types.	-	-	-	-
PC6. Identify low-heating problems caused by ageing magnetron, cracked magnets, damaged dome, or inverter board issues.	-	-	-	-
PC7. Identify intermittent heating or sensor-based failures due to oxidized connections, burned terminals, or faulty inverter output control.	-	-	-	-
PC8. Detect touch panel or display malfunctions, faulty control boards, sensor errors (e.g. temperature/humidity), and software glitches in programmable or smart microwaves.	-	-	-	-
PC9. Inspect individual modules (e.g., inverter board, control PCB, sensor board, power supply) when fault is not evident through initial checks.	-	-	-	-
PC10. Forward the unit to an authorized service center for advanced component testing, firmware issues, or factory-only repairs.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Replace/repair dysfunctional module in microwave	**6**	**10**	**-**	**1**
PC11. Replace/repair components like inverter PCBs, control boards, relays, sensors, or heating elements at site if diagnosed and parts are available.	-	-	-	-
PC12. Schedule follow-up service if specific smart control boards, inverter units, or grill/convection parts are not immediately available.	-	-	-	-
PC13. Reassemble unit and verify full functionality of all systems, including heating modes, smart sensors, fan motors, touch controls, and app connectivity if applicable.	-	-	-	-
Confirm functionality of repaired unit	**10**	**6**	**-**	**1**
PC14. Demonstrate all features post-repair: microwave, grill, convection modes, digital touch interface, auto-cook programs, and mobile app control (if supported).	-	-	-	-
PC15. Instruct customer on cleaning procedures for sensors, grill elements, and fan filters; guide on regular maintenance and safe usage of inverter/convection features.	-	-	-	-
PC16. Obtain digital or written customer acknowledgment and satisfaction confirmation.	-	-	-	-
PC17. Complete service documentation including digital logs, firmware updates (if done), and repair summary.	-	-	-	-
PC18. Collect payment and issue invoice via app or POS system, if applicable.	-	-	-	-
PC19. Recommend AMCs or upsell accessories like grill stands, microwave-safe containers, or upgraded models if the unit is outdated.	-	-	-	-
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3198
NOS Name	Perform Repairing of Microwave Oven
Sector	Electronics
Sub-Sector	
Occupation	After Sales Service
NSQF Level	4
Credits	4
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ELE/N3199: Perform Repairing of Induction Cooktop

Description

This NOS covers identifying faults and performing repair, replacement, and testing of induction cooktop components to ensure proper functionality and safety

Scope

The scope covers the following :

- Diagnose Fault in Induction Cooktop
- Replace Dysfunctional Module
- Confirm Functionality Post Repair
- Achieve Productivity & Service Quality

Elements and Performance Criteria

Diagnose Fault in Induction Cooktop

To be competent, the user/individual on the job must be able to:

PC1. Understand usage habits and previous issues through customer interaction

PC2. Diagnose fault based on initial inspection and any error codes displayed

PC3. Check power cord continuity and replace if faulty.

PC4. Test the cooktop with a new power cord to confirm power issues

PC5. Address "E1/No Pot" error – educate on using compatible cookware.

PC6. Explain voltage-related errors (E3/E4) and recommend use of voltage stabilizer.

Replace Dysfunctional Module

To be competent, the user/individual on the job must be able to:

PC7. Test and replace faulty PCB using a digital multimeter.

PC8. Test and replace fan motor if not functioning

PC9. Replace damaged IGBT, sensor board, or other key components as needed

Confirm Functionality Post Repair

To be competent, the user/individual on the job must be able to:

PC10. Reassemble unit with proper wire connections and insulation

PC11. Power on and check functions like heating, timer, and pot detection

PC12. Demonstrate working condition and explain proper usage and care

PC13. Collect payment (if applicable) and complete documentation

PC14. Ensure customer signs the acknowledgement form.

Achieve Productivity & Service Quality

To be competent, the user/individual on the job must be able to:

PC15. Handle the unit safely to avoid damage

PC16. Diagnose and fix issues within the defined time

PC17. Identify and replace only faulty modules using correct spares

PC18. Communicate part requirements clearly to service center
PC19. Educate customer on maintenance to prevent repeat issues
PC20. Ensure high customer satisfaction and timely complaint closure

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand working principle of induction cooktop including sensor board PCB and IGBT operation
KU2. Know common error codes like E1 no pot E3 E4 and their causes related to voltage or cookware compatibility
KU3. Understand procedures for testing and replacing faulty components such as PCB fan motor or power cord
KU4. Know safety precautions for handling electrical appliances and using tools like digital multimeter
KU5. Understand documentation process for service completion and importance of customer acknowledgment

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Diagnose faults accurately using testing tools and interpret error codes effectively
GS2. Perform safe and efficient repair or replacement of induction cooktop modules
GS3. Communicate clearly with customers to explain issues usage guidance and preventive measures
GS4. Maintain timely service delivery and ensure repair quality as per company standards
GS5. Demonstrate repaired appliance functions and ensure complete customer satisfaction

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose Fault in Induction Cooktop	**12**	**15**	**-**	**4**
PC1. Understand usage habits and previous issues through customer interaction	-	-	-	-
PC2. Diagnose fault based on initial inspection and any error codes displayed	-	-	-	-
PC3. Check power cord continuity and replace if faulty.	-	-	-	-
PC4. Test the cooktop with a new power cord to confirm power issues	-	-	-	-
PC5. Address "E1/No Pot" error – educate on using compatible cookware.	-	-	-	-
PC6. Explain voltage-related errors (E3/E4) and recommend use of voltage stabilizer.	-	-	-	-
Replace Dysfunctional Module	**6**	**8**	**-**	**2**
PC7. Test and replace faulty PCB using a digital multimeter.	-	-	-	-
PC8. Test and replace fan motor if not functioning	-	-	-	-
PC9. Replace damaged IGBT, sensor board, or other key components as needed	-	-	-	-
Confirm Functionality Post Repair	**10**	**12**	**-**	**2**
PC10. Reassemble unit with proper wire connections and insulation	-	-	-	-
PC11. Power on and check functions like heating, timer, and pot detection	-	-	-	-
PC12. Demonstrate working condition and explain proper usage and care	-	-	-	-
PC13. Collect payment (if applicable) and complete documentation	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. Ensure customer signs the acknowledgement form.	-	-	-	-
Achieve Productivity & Service Quality	**12**	**15**	**-**	**2**
PC15. Handle the unit safely to avoid damage	-	-	-	-
PC16. Diagnose and fix issues within the defined time	-	-	-	-
PC17. Identify and replace only faulty modules using correct spares	-	-	-	-
PC18. Communicate part requirements clearly to service center	-	-	-	-
PC19. Educate customer on maintenance to prevent repeat issues	-	-	-	-
PC20. Ensure high customer satisfaction and timely complaint closure	-	-	-	-
NOS Total	**40**	**50**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3199
NOS Name	Perform Repairing of Induction Cooktop
Sector	Electronics
Sub-Sector	
Occupation	After Sales Service
NSQF Level	4
Credits	3.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC4. speak with others using some basic English phrases or sentences

Communication Skills

To be competent, the user/individual on the job must be able to:

PC5. follow good manners while communicating with others

PC6. work with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

To be competent, the user/individual on the job must be able to:

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

KU10. how to compute income and expenses
KU11. importance of maintaining safety and security in financial transactions
KU12. different legal rights and laws
KU13. how to operate digital devices and applications safely and securely
KU14. ways to identify business opportunities
KU15. types of customers and their needs
KU16. how to apply for a job and prepare for an interview
KU17. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. communicate effectively using appropriate language
GS2. behave politely and appropriately with all
GS3. perform basic calculations
GS4. solve problems effectively
GS5. be careful and attentive at work
GS6. use time effectively
GS7. maintain hygiene and sanitisation to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**1**	**3**	**-**	**-**
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	**1**	**1**	**-**	**-**
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**1**	**-**	**-**
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
Financial and Legal Literacy	**3**	**4**	**-**	**-**
PC9. use various financial products and services safely and securely	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
Essential Digital Skills	**4**	**6**	**-**	**-**
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	**3**	**5**	**-**	**-**
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
Customer Service	**2**	**2**	**-**	**-**
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**1**	**3**	**-**	**-**
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criterion.

6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ELE/N3101.Engage with customer for service	40	50	-	10	100	10
ELE/N3196.Perform Installation & Repairing of Water Purifier	40	50	-	10	100	20
ELE/N3197.Perform Repairing of Mixer/Juicer/Grinder	40	50	-	10	100	20
ELE/N3198.Perform Repairing of Microwave Oven	40	50	-	10	100	20
ELE/N3199.Perform Repairing of Induction Cooktop	40	50	-	10	100	20
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	10
Total	**220**	**280**	**-**	**50**	**550**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory) trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended) trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.

Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.