Model Curriculum

QP Name: Junior Field Technician – Basic Home Appliances

OEM Qualification Name: Junior Field Technician – Basic Home Appliances

QP Code: ELE/Q3117

QP Version: 2.0

Model Curriculum Version: 2.0

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-I&A
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7421.0701
Minimum Educational Qualification and Experience	10th grade pass or equivalent OR 8th grade pass or equivalent with 3 Year of relevant experience OR Certificate-NSQF (Level 2.5 in relevant domain) with 1.5 years relevant experience Relevant experience in Consumer Electronics & IT Hardware
Pre-Requisite License or Training	NA
Minimum Job Entry Age	NA
Last Reviewed On	16/12/2025
Next Review Date	18/11/2028
NSQC Approval Date	16/12/2025
QP Version	2.0
Model Curriculum Creation Date	16/12/2025
Model Curriculum Valid Up to Date	18/11/2028
Model Curriculum Version	2.0
Minimum Duration of the Course	450 Hours
Maximum Duration of the Course	450 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:

- Demonstrate effective communication and customer interaction during service activities.
- Install and service domestic fans and coolers following safety standards.
- Diagnose faults and repair solar LED and other lighting systems.
- Inspect and restore electric kettles and garment care appliances to working condition.
- Exhibit employability and soft skills for effective workplace behavior.
- Apply health, safety, and environmental practices while performing tasks.
- Record service details and maintain tools and equipment systematically.

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/N7210: Engage with Customers and Electrical Service Skills **NOS Version No. 1.0** **NSQF Level 3**	**30:00**	**30:00**	**00:00**	**00:00**	**60:00**
Module 1: Process of engaging with customers and Electrical Service Skills	30:00	30:00	00:00	00:00	60:00
ELE/N7211: Install, Diagnose and Repair Domestic Fans and Coolers **NOS Version No. 1.0** **NSQF Level 3**	**30:00**	**60:00**	**00:00**	**30:00**	**120:00**
Module 2: Process of repairing of Domestic Fans and Coolers	30:00	60:00	00:00	30:00	120:00
ELE/N7212: Diagnose and Repair Solar LE and other lights **NOS Version No. 1.0** **NSQF Level 3**	**30:00**	**60:00**	**00:00**	**30:00**	**120:00**
Module 3: Process of repairing Solar LED and other Lights	30:00	60:00	00:00	30:00	120:00

ELE/N7213:Diagnose and Repair Electric Kettle and Garment Care Appliances **NOS Version No. 1.0** **NSQF Level 3**	**30:00**	**60:00**	**00:00**	**30:00**	**120:00**
Module 4: Process of repairing of Electric Kettle and Garment Care Appliances	30:00	60:00	00:00	30:00	120:00
DGT/VSQ/N0101: Employability Skills **NOS Version No. 1.0** **NSQF Level 3**	**30:00**	**00:00**	**00:00**	**00:00**	**30:00**
Module 5: Skills required for Employability	30:00	00:00	00:00	00:00	30:00
Total Duration	**150:00**	**210:00**	**00:00**	**90:00**	**450:00**

Module Details

Module 1: Process of engaging with customers and Electrical Service Skills

Mapped to ELE/N7210 &V1.0

Terminal Outcomes:

- Interact effectively with customers and carry out service communication and documentation as per organizational standards.
- Apply basic electrical concepts and safety practices while performing installation, diagnosis, and repair of home appliances.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the process of reviewing customer complaints and confirming service details. • Describe professional etiquette, grooming, and communication standards during customer interaction. • Discuss procedures for checking product details like warranty and service history. • Explain how to suggest suitable solutions, estimate cost and time, and obtain customer approval. • Outline documentation, follow-up, and preventive maintenance guidance steps post service. • Describe standard electrical safety practices as per IS 5216, ISO 45001, IS 1646, and IS 14489. • Explain basic electrical concepts such as voltage, current, resistance, and power, and apply Ohm's Law in simple calculations. • Identify types of circuits, conductors, insulators, and protection devices used in domestic wiring. • Explain the procedure to calculate energy consumption and interpret energy meter reading.	• Demonstrate professional communication and customer interaction during service visits. • Prepare the required tools, manuals, and documents before attending a service call. • Verify product warranty and service details accurately. • Perform basic fault identification and suggest appropriate solutions to the customer. • Complete post-service documentation and customer feedback procedures. • Apply electrical safety measures during inspection, repair, and testing. • Use PPE and follow safe work practices in line with occupational safety standards. • Operate electrical testing instruments (multimeter, clamp meter, megger, etc.) to measure parameters. • Calculate basic electrical values and demonstrate correct use of Ohm's Law in practice. • Maintain a clean, safe, and organized work area while managing tools and waste responsibly.

• Identify and describe common electrical testing instruments and their applications.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
ESD/PPE kit, Line tester, Digital multimeter, Digital clamp meter, Insulation tape, Measuring tape, Digital test panel.	

Module 2: Process of repairing of Domestic Fans and Coolers

Mapped to ELE/N7211 &V1.0

Terminal Outcomes:

- Install, diagnose, and repair various types of domestic fans and coolers following safety and manufacturer guidelines.
- Perform service completion tasks including testing, documentation, and customer interaction as per company procedures.

Duration: 30:00	**Duration: 60:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify different types of fans and coolers and explain their working principles. • Describe functions of key components such as motors, capacitors, pumps, and switches. • Explain standard safety precautions and procedures for assembling and disassembling units. • Discuss fault symptoms, probable causes, and diagnostic approaches for common fan and cooler issues. • Outline procedures for on-site component repair or replacement as per standard service practices. • Explain post-service documentation, billing, and customer communication protocols. • Describe warranty terms, AMC, and preventive maintenance recommendations for customers.	• Identify fan and cooler models and demonstrate safe handling of components. • Use tools and testing equipment to inspect and test electrical and mechanical parts. • Perform basic fault diagnosis through continuity, fuse, and component tests. • Repair or replace defective parts like motors, switches, or capacitors on-site. • Reassemble and test the appliance to confirm full operational status. • Document service details, collect customer acknowledgment, and close the complaint record. • Demonstrate the repaired unit and guide the customer on preventive care and cleaning.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Screwdrivers, Open spanner set, Combination plier, Hammers, Brush, Files, Spanners, Allen L-key set, T-type socket driver, Pliers, Pullers, Grease, Emery paper, Chisels, Capacitance meter, Digital multimeter, Digital clamp meter, Anemometer, Digital RPM meter, Fans and coolers(Different Types).	

Module 3: Process of repairing Solar LED and other Lights

Mapped to ELE/N7212 &V1.0

Terminal Outcomes:

- Diagnose and repair solar LED and other lighting systems by identifying faults and replacing defective components using proper tools and safety practices.
- Perform functional testing, demonstrate repaired units, and complete documentation as per service standards.

Duration: 30:00	**Duration: 60:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify different types of lighting systems such as solar LED, emergency, tube, and panel lights. • Explain the working principles of solar-powered lighting systems including PV conversion, energy storage, and LED illumination. • Describe key components like solar panels, batteries, controllers, LED modules, and driver circuits. • List standard tools and explain their uses in testing and repairing lighting units. • Discuss safety precautions to be followed while handling electrical and solar components. • Explain the process of analyzing customer complaints and identifying common lighting faults. • Describe standard inspection and testing methods for panels, batteries, and LEDs. • Outline documentation and customer communication procedures after repair.	• Identify and handle various lighting systems and their components safely. • Use testing tools such as multimeter and clamp meter to measure panel voltage, battery output, and LED continuity. • Inspect lights for visible damages, corrosion, or loose connections. • Perform fault diagnosis and replace defective components like batteries, drivers, or LED modules. • Reassemble the unit and test for correct operation under sunlight or simulated power. • Demonstrate the repaired light and explain preventive maintenance to the customer. • Complete documentation and maintain a clean and safe work area.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Digital multimeter, Digital clamp meter, Capacitance meter, Tweezer, Soldering iron and wires, Flux/paste, Brush, Measuring tape, Digital temperature (laser) gun, Digital test panel, LEDs and solar LEDs.	

Module 4: Process of repairing of Electric Kettle and Garment Care Appliances

Mapped to ELE/N7213 &V1.0

Terminal Outcomes:

- Diagnose, repair, and test electric kettles, steam irons, and garment steamers using correct tools and safety practices.
- Demonstrate repaired appliances, guide customers on maintenance, and complete service documentation as per standard procedures**.**

Duration: 30:00	**Duration: 60:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify different models and components of electric kettles, steam irons, and garment steamers. • Explain working principles of heating and steam generation in these appliances. • Describe the function of key parts such as heating coil, thermostat, thermal fuse, and spray nozzle. • List standard tools and explain their role in diagnosis and repair. • Discuss electrical and handling safety precautions to prevent shocks, burns, and water-related hazards. • Explain methods to analyze customer complaints and common appliance fault symptoms. • Describe basic testing procedures for continuity, resistance, thermostat response, and power input. • Outline steps for documentation, service closure, and customer communication.	• Identify appliance parts and demonstrate safe handling of heating and water components. • Use testing tools to measure electrical parameters and check component functionality. • Disassemble appliances safely and inspect for faults like leaks, burnt coils, or faulty thermostats. • Repair or replace defective parts such as fuses, cords, coils, or tanks. • Reassemble and test the appliance for heating, steam output, and safety features. • Demonstrate appliance use to the customer and advise on regular maintenance practices. • Document service details, collect feedback, and maintain a clean and organized workspace.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Screwdrivers, Combination plier, Open spanner set, Allen L-key set, Pliers, Tweezer, Soldering iron and wires, Flux/paste, Brush, Grease, Emery paper, Digital multimeter, Digital clamp meter, Digital temperature (laser) gun, Electric kettle, Steam iron, Garment steamer.	

Module 5: Skills required for Employability

Mapped to DGT/VSQ/N0101 &V1.0

Terminal Outcomes:

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 6: On-the-Job Training

Mapped to Junior Field Technician – Basic Home Appliances

Mandatory Duration: 90:00	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. Detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, short/ loose/open contacts, blown fuse
4. Inspect each module of the unit separately if the fault is not identified through basic tests.
5. Communicating effectively at the workplace.
6. 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 relevant CITS course	Electronics/ Mechanical / Electrical	1	Home Appliances	2 year preferably	Electronics	

Trainer Certification	
Domain Certification	**Platform Certification**
"**Junior Field Technician- Basic Home Appliances**", "ELE/Q3117, v2.0", Minimum accepted score is 80% Certified in 30-hour Employability NOS (2022), with a minimum score of 80%	"Trainer", "MEP/Q2601" with a 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 relevant CITS course	Electronics/ Mechanical / Electrical	3	Home Appliances	2 year preferably	Electronics	

Assessor Certification	
Domain Certification	**Platform Certification**
"**Junior Field Technician – Basic Home Appliances**", "ELE/Q3117, v2.0", Minimum accepted score is 80% Certified in 30-hour Employability NOS (2022), with a minimum score of 80%	"Assessor", "MEP/Q2701" with a 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