Model Curriculum

QP Name: Junior Field Technician – Home Appliances

QP Code: ELE/Q3117

QP Version: 1.0

NSQF Level: 3

Model Curriculum Version: 1.0

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	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7421.0701
Minimum Educational Qualification and Experience	8th grade pass with 2 years of relevant experience OR 9th grade pass and pursuing regular schooling OR 10th grade pass OR 8th grade pass + 2 years NTC/NAC in relevant trade (after 8th) 16 years
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	17/11/2022
Next Review Date	17/11/2025
NSQC Approval Date	17/11/2022
QP Version	1.0
Model Curriculum Creation Date	17/11/2022
Model Curriculum Valid Up to Date	17/11/2025
Model Curriculum Version	1.0
Minimum Duration of the Course	480 Hours
Maximum Duration of the Course	480 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 repairing of dysfunctional Iron.
- Demonstrate the process of repairing dysfunctional Fan.
- Demonstrate the process of repairing dysfunctional LED and Other Lights.
- Demonstrate the process of dysfunctional Cooler.
- Explain the importance of following inclusive practices for all genders and PwD at work with employability.
- 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
Bridge Module	**04:00**	**04:00**	**00:00**	**00:00**	**08:00**
Module 1: Introduction and orientation to the role of Junior Field Technician - Home Appliances	04:00	04:00	00:00	00:00	08:00
ELE/N3101: Engage with customer with service **NOS Version- 2.0** **NSQF Level- 4**	**20:00**	**42:00**	**00:00**	**00:00**	**62:00**
Module 2: Process of engaging with customer for service	20:00	42:00	00:00	00:00	62:00
ELE/N3157: Installation and Repair dysfunctional Iron	**20:00**	**35:00**	**00:00**	**20:00**	**75:00**
Module 3: Process of repairing of Iron	20:00	35:00	00:00	00:00	75:00
ELE/N3160: Repair dysfunctional Fan	**20:00**	**35:00**	**00:00**	**20:00**	**75:00**

Module 4: Process of repairing of Fan	20:00	35:00	00:00	20:00	75:00
ELE/N3159: Repair dysfunctional LED and Other Lights	**20:00**	**35:00**	**00:00**	**30:00**	**85:00**
Module 5: Process of repairing dysfunctional LED and other Lights	20:00	35:00	00:00	30:00	85:00
ELE/N3158: Repair dysfunctional Cooler	**20:00**	**35:00**	**00:00**	**20:00**	**75:00**
Module 6: Process of dysfunctional Cooler	20:00	35:00	00:00	20:00	75:00
ELE/N1003: Work effectively, sustainably and safely	**16:00**	**24:00**	**00:00**	**00:00**	**40:00**
Module 7: Work Ethics, substantiality and safety	16:00	24:00	00:00	00:00	40:00
DGT/VSQ/N0102: Employability Skills	**60:00**	**00:00**	**00:00**	**00:00**	**60:00**
Module 8: Skills required for Employability	60:00	00:00	00:00	00:00	60:00
Total Duration	**180:00**	**210:00**	**00:00**	**90:00**	**480:00**

Module Details

Module 1: Introduction and orientation to the role of Junior Field Technician – Home Appliances

Bridge Module

Terminal Outcomes:

- Discuss the job role of Assistant- Home Appliances.

Duration: 04:00	**Duration: 04:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the electronic industry and its sub-sectors. • Discuss the role and responsibilities of Assistant - Home Appliances. • Describe various employment opportunities for Assistant - Home Appliances.	• Operate different types of appliances such as LED, Fan, Iron, Cooler etc. • Demonstrate effective ways of communication to interact about the dysfunctionality
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of engaging with customer for service

Mapped to ELE/N3101 v2.0

Terminal Outcomes:

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

Duration: 20:00	Duration: 42:00
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. • 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 3: Process of repairing of Iron

Mapped to ELE/N3157 v1.0

Terminal Outcomes:

- Describe the process of performing pre-installation checks.
- Describe the process of preparing for installation of the appliance.
- Describe the process of diagnosing, repairing and replacing the faulty module of appliance.

Duration: 20:00	Duration: 35:00
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. • Verify that the product matches the customer's order with all supporting accessories • Explain the steps to shut off the system by turning off the appliance and unplugging the appliance to carry out further inspection. • Explain about the tests performed for proper functioning of the appliance	• 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. • Explain maintenance procedures to be followed while handling the appliance • Understanding the customers issues that left unresolved • Maintain documents for records • Explain importance of proper repairing of the appliance
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Electronic device under test; electronic modules, circuits; relevant documents in the form of drawings, work manuals, wiring specifications; LED, multi meter, tester, ICs and personal protective equipment (PPE).	

Module 4: Process of repairing of Fan

Mapped to ELE/N3160 v1.0

Terminal Outcomes:

- Diagnose faults in fan
- Repair faulty fan

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the importance of providing and ensuring correct voltage output and proper connectivity • Outline the organizational hierarchy to inform the supervisor about component non-availability, damage etc. • Discuss the guidelines of a service manual to be followed by a technician while testing • Highlight the best practices to be followed to clean the repair area • Explain the importance of team work and helping colleagues, if required	• Perform the steps of basic tests to check fundamental components of fan functioning • Demonstrate how to perform functional tests on fan components after disassembling it • Perform Troubleshooting procedure of minor external faults such as loose connections, improper mounting, etc. • Role play on how to operate the appliance and explain appliance functioning to the consumer • Prepare sample documents to close customer complaint and receive payment
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Electronic device under test; electronic modules, circuits; relevant documents in the form of drawings, work manuals, wiring specifications; LED, multi meter, tester, ICs and personal protective equipment (PPE).	

Module 5: Process of repairing dysfunctional LED and Other Lights

Mapped to ELE/N3159 v1.0

Terminal Outcomes:

- Diagnose faults in LED light
- Repair faulty LED lights

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the basic inspection process of LED light. • Discuss the common issues and faults that may occur in an LED light • Explain the process of comparing actual voltage with the desired voltage to find out the damaged section of supply using multimeter • State the importance of checking and replacing the damaged LED strips • List the parameters to check and ensure functioning of the LED lights • Describe the importance of following safety precautions while handling the appliances	• Perform the steps to solder wires and make connections of loose wires to make them functional • Perform the steps to check the LED light engine and repair/replace it with the DC supply, if found faulty • Demonstrate how to repair and replace the damaged component and ensure its functioning • Check the performance of LED light after repairing and re-assembling it • Demonstrate how to fix LED light at the required fixture and check its functioning again
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Electronic device under test; electronic modules, circuits; relevant documents in the form of drawings, work manuals, wiring specifications; LED, multi meter, tester, ICs and personal protective equipment (PPE).	

Module 6: Process of dysfunctional Cooler

Mapped to ELE/N3158 v1.0

Terminal Outcomes:

- Diagnose faults in Cooler
- Repair faulty Cooler

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the importance of providing and ensuring correct voltage output and proper connectivity • Outline the organizational hierarchy to inform the supervisor about component non-availability, damage etc. • Discuss the guidelines of a service manual to be followed by a technician while testing • Highlight the best practices to be followed to clean the repair area • Explain the importance of team work and helping colleagues, if required	• Perform the steps of basic tests to check fundamental components of functioning • Demonstrate how to perform functional tests on cooler components after disassembling it • Perform Troubleshooting procedure of minor external faults such as loose connections, improper mounting, etc. • Perform Troubleshooting procedure on faults in motor, pump. • Role play on how to operate the appliance and explain appliance functioning to the consumer • Prepare sample documents to close customer complaint and receive payment
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Electronic device under test; electronic modules, circuits; relevant documents in the form of drawings, work manuals, wiring specifications; LED, multi meter, tester, ICs and personal protective equipment (PPE).	

Module 7: Work Ethics, sustainability and safety practices

Mapped to ELE/N1003 v3.0

Terminal Outcomes:

- Describe the process of achieving optimum productivity and quality
- Explain the importance of implementing health and safety procedures.
- Demonstrate the process of organizing waste management and recycling
- Explain the importance of conserving resources.

Duration: 16:00	Duration: 24:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of time management. • Explain the organizational safety and health policy. • List different waste categories such as dry, wet, recyclable, non-recyclable and single-use plastic items. • Explain the usage of different colors of dustbins to dispose waste. • Explain the methods of waste disposal. • Explain the methods of recycling as well as repairing and reusing electronic components. • Explain the efficient utilization of material and water. • Explain the basics of electricity and prevalent energy efficiency devices • List ways to recognize common electrical problems • List common practices of conserving electricity	• Show how to take ESD precautions while doing work. • Demonstrate the use of appropriate Personal Protective Equipment (PPE) • Show how to identify and segregate recyclable/ non-recyclable and hazardous wastes. • Demonstrate the process of cleaning the tools, machines and equipment. • Show how to connect electrical equipment and appliances properly when in use and turn off when not in use.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 8: Skills required for Employability

Mapped to DGT/VSQ/N0102 v1.0

Terminal Outcomes:

Duration: 60:00	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 9: On-the-Job Training

Mapped to Junior Field Technician - 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- Home Appliances**", "ELE/Q3117, v1.0", Minimum accepted score is 80% Certified in 60-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 - Home Appliances**", "ELE/Q3117, v1.0", Minimum accepted score is 80% Certified in 60-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