









Junior Field Technician -Home Appliances

QP Code: ELE/Q3117

Version: 1.0

NSQF Level: 3

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







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ELE/Q3117: Junior Field Technician - Home Appliances

Brief Job Description

The individual at work is responsible for interacting with the customers for installation of the appliance and diagnosis of the problem to assess possible causes of malfunction. The individual is also responsible for rectification of the problems, replacement of faulty modules/Failed parts or recommend for factory repairs.

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/N3157: Installation and Repair of dysfunctional Iron
- 3. ELE/N3160: Repair dysfunctional Fan
- 4. ELE/N3159: Repair dysfunctional LED and Other Lights
- 5. ELE/N3158: Repair dysfunctional Cooler
- 6. ELE/N1003: Work effectively, sustainably and safely
- 7. DGT/VSQ/N0102: Employability Skills

Qualification Pack (QP) 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 & 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)
Minimum Level of Education for Training in School	8th grade
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	17/11/2022
Next Review Date	17/11/2025
Deactivation Date	17/11/2025
NSQC Approval Date	17/11/2022
Version	1.0
Reference code on NQR	XXXXXXXXXXXX
NQR Version	1.0

Remarks:

NIA		
NA		







ELE/N3101: Engage with customer for service

Description

This NOS unit is about interacting with customer to understand their requirement with respect to problem in the appliance

Scope

The scope covers the following:

- · Interact with customer
- Suggest possible solutions

Elements and Performance Criteria

Interacting with customer

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

- PC1. analyse the details of customer complaint registered at customer care or installation schedule
- PC2. connect with the customer 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.** company's policies on code of conduct, organisation's culture, customer care, reporting structure and documentation policy
- KU2. company's products and recurring problems reported in consumer appliances
- KU3. precautions to be taken while handling field calls and dealing with customers
- KU4. importance of personal grooming with proper etiquettes at the customer's premises
- **KU5.** basic electrical, mechanical modules of various appliances and electronics involved in the type of appliance







KU6. models of different appliances, their common and distinguishing features, functionality of different features of appliances and new features

Generic Skills (GS)

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

- GS1. complete required documentation
- GS2. seek inputs and guidance from the supervisor
- GS3. read and comprehend documents
- GS4. communicate in local/regional/English language
- GS5. comply with applicable standard operating procedures
- GS6. communicate with all stakeholders to be able to work efficiently
- GS7. interact with others in a polite and courteous manner
- GS8. maintain proper etiquette while dealing with the customer







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interacting with customer	32	41	-	8
PC1. analyse the details of customer complaint registered at customer care or installation schedule	5	6	-	1
PC2. connect with the customer to confirm problem telephonically and fix time for visit	4	6	-	1
PC3. collect appropriate tools, parts, relevant reference sheets, manuals and documents	4	6	-	2
PC4. visit the customer premises as per the scheduled date and time for service as per the requirement	4	6	-	1
PC5. check about warranty status of appliance and annual maintenance contract	4	6	-	1
PC6. gather detailed information pertaining to age of appliance, status of upkeep, symptoms andhistory of problems in the appliance	5	6	-	1
PC7. provide information to the customer about the warranty and problem in detail along with theprecautions to be taken in order to avoid recurrence of problem	6	5	-	1
Suggest possible solutions	8	9	-	2
PC8. suggest possible solutions with the time required, costs involved and methodology for servicing	4	5	-	1
PC9. seek customer's approval on further action	4	4	-	1
NOS Total	40	50	-	10







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	TBD
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	02/06/2025
NSQC Clearance Date	27/01/2022







ELE/N3157: Installation and Repair of dysfunctional Iron

Description

This NOS unit is about the identification of the Iron Machine with the customer and fixing the faults.

Scope

The scope covers the following:

- Perform checks related to the model of the Iron
- Diagnose, repair and replace the faulty module of appliance

Elements and Performance Criteria

Undertake pre-installation site visit

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

- PC1. visit customer location as scheduled before carrying out operations
- PC2. carry appropriately functional tools and equipment required for performing operations on Iron
- PC3. verify the structural requirements such as distance from AC socket

Prepare for installation of the appliance

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

- PC4. remove the packaging from the appliance at the customer location
- PC5. verify that the product matches the customer's order with all supporting accessories
- PC6. check the availability of all tools and fitments
- PC7. perform pre-installation checks to ensure all requirements are met like proper supply of Live, Neutral and Earth Wire must be checked and Earth must be present.
- PC8. perform steps to shut off the system by turning off the appliance and unplugging the appliance to carry out further inspection
- PC9. Perform tests to check if the appliance is working or not
- PC10. Check the faults in separate parts of the appliance
- PC11. Check the proper working of the appliance after connection is developed.

Perform post-installation activities

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

- PC12. demonstrate the features and utility to the customer
- PC13. explain maintenance procedures to be followed while using the Iron
- PC14. escalate the customer issues/problems that are unresolved in the field to the supervisor
- PC15. fill in customer acknowledgement form and get it signed by customer
- PC16. maintain other documentation for recording completion of installation







Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** company's policy on product's warranty, sales, installation, after sales support policy and other terms and conditions
- KU2. Safety precautions to be taken while installing and repairing of the appliance
- KU3. Handle parts without causing any damage to the accessories
- KU4. operation of tools such as tester, screw drivers, etc.
- KU5. procedure to fix various accessories and parts that have accompanied the unit
- KU6. different types of Iron manufactured by the company
- KU7. manual-based procedure of installing the different types of Iron
- KU8. importance of proper repairing

Generic Skills (GS)

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

- GS1. complete forms and other documentation
- GS2. work effectively to reduce repetition of errors and improve work processes
- GS3. read and comprehend text material
- GS4. communicate in local/regional/English language
- GS5. interact with others in a polite and courteous manner
- GS6. comply with applicable standard operating procedures
- GS7. communicate with all stakeholders to be able to work efficiently
- GS8. seek inputs and guidance from the supervisor
- GS9. maintain proper etiquette while dealing with the customer







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Undertake pre-installation site visit	13	12	-	2
PC1. visit customer location as scheduled before carrying out operations	3	3	-	-
PC2. carry appropriately functional tools and equipment required for performing operations on Iron	5	5	-	1
PC3. verify the structural requirements such as distance from AC socket	5	4	-	1
Prepare for installation of the appliance	15	30	-	6
PC4 remove the packaging from the appliance at the customer location	-	3	-	-
PC5. verify that the product matches the customer's order with all supporting accessories	2	3	-	1
PC6. check the availability of all tools and fitments	1	3	-	-
PC7. perform pre-installation checks to ensure all requirements are met like proper supply of Live, Neutral and Earth Wire must be checked and Earth must be present.	3	4	-	2
PC8. perform steps to shut off the system by turning off the appliance and unplugging the appliance to carry out further inspection	1	3	-	-
PC9. Perform tests to check if the appliance is working or not	3	5	_	1
PC10. Check the faults in separate parts of the appliance	4	6	-	2
PC11. Check the proper working of the appliance after connection is developed.	1	3	-	-
Perform post-installation activities	12	8	-	2
PC12. demonstrate the features and utility to the customer	2	-	-	-
PC13. explain maintenance procedures to be followed while using the Iron	4	-	-	1







Transforming the skill landscape

PC14. escalate the customer issues/problems that are unresolved in the field to the supervisor	3	2	-	-
PC15. fill in customer acknowledgement form and get it signed by customer	1	3	-	-
PC16. maintain other documentation for recording completion of installation	2	3	-	1
NOS Total	40	50	-	10







National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3157
NOS Name	Installation and Repair of dysfunctional Iron
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022







ELE/N3160: Repair dysfunctional Fan

Description

This OS unit is about understanding the customer complaints, identifying the fault and fixing the Fan

Scope

The scope covers the following:

- Diagnose fault in Fans
- Replace/repair dysfunctional module in Fans
- Information about the parts of the Fan

Flements and Performance Criteria

Diagnose fault in Fan

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

- PC1. Identification of the type of Fan
- PC2. diagnose the fault based on customer interaction, usage pattern and initial inspection
- PC3. check model to ensure it is as specified by company standards
- PC4. perform steps to shut off the system by turning off the switch and unplugging the appliance to carry out further inspection
- PC5. place a piece of cloth or towel under the unit in order to avoid any dust/dirt on the floor
- PC6. perform basic inspection of noisy operation, capacitor burn out etc. to diagnose reasons for not working of the appliance
- PC7. identify reasons for faults in the fan
- PC8. detect worn out through symptoms such as loud vibrating noise, abrupt shutting off etc.
- PC9. detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, loose/open contacts, blown fuse
- PC10, inspect each module of the unit separately if the fault is not identified through basic tests
- PC11. send it to factory/service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site

Replace/repair dysfunctional module in Fan

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

- PC12. repair/replace component at location, if the fault identified is due to damage of components such as capacitor burn out, fuse blow, excessive heating etc.
- PC13. schedule next appointment if the part can't be replaced on site
- PC14. reassemble the unit to check that all the modules of the unit are working as per specifications







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

- PC15. demonstrate functionality of the unit to the customer
- PC16. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem
- PC17. fill in customer acknowledgement form
- PC18. complete all documentation procedures for complaint closure
- PC19. collect necessary payments from the customer
- PC20. sell related products such as new equipment or Annual Maintenance Contracts (AMC) as per company policy

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** company's policy on product's warranty, sales, installation, after sales support policy and other terms and conditions
- KU2. damage free handling of the unit
- KU3. Fan manufacturing capabilities of the organization
- KU4. Electrical circuit diagram of the appliance
- KU5. Knowledge of Capacitor, blades, canopy etc.
- **KU6.** different types of Fans e.g. Ceiling fan, exhaust fan, wall mount fan, pedestal fan, kitchen fans etc.
- KU7. parameters such as designing systems, performance etc.
- KU8. different types of fans manufactured by the company and their respective features
- KU9. functioning of the appliance as well as properties of the appliance
- **KU10.** basic electronics knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs
- **KU11.** fundamentals of electricity such as ohms law, difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections
- KU12. procedure to diagnose the problem accurately and in assigned time
- KU13. troubleshooting knowledge
- KU14. components/modules of the Fans and their functioning
- KU15. selection of the right spares according to recorded complaints
- KU16. hazards that may occur during repairs, their causes and prevention/personal safety
- KU17. frequently occurring faults such as noisy fan etc.
- KU18. electrical and electronic symbols, multiples and SI units
- KU19. how to operate/use Tester, Multi Meter etc.
- KU20. company specified procedures to change capacitors, blades etc.







Generic Skills (GS)

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

GS1.	complete forms and other documentation
GS2.	read and comprehend manuals/text material/documents
GS3.	communicate in local/regional/English language
GS4.	interact with others in a polite and courteous manner
GS5.	comply with applicable standard operating procedures
GS6.	communicate with all stakeholders to be able to work efficiently
GS7.	seek inputs and guidance from the supervisor
GS8.	maintain proper etiquette while dealing with the customer

- GS9. interpret information clearly
- GS10. improve work processes
- GS11. ensure customer satisfaction
- GS12. document/record information as per company formats







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose fault in Fan	22	36	-	7
PC1. Identification of the type of Fan	2	4	-	2
PC2. diagnose the fault based on customer interaction, usage pattern and initial inspection	2	4	-	1
PC3. check model to ensure it is as specified by company standards	2	4	-	-
PC4. perform steps to shut off the system by turning off the switch and unplugging the appliance to carry out further inspection	2	2	-	-
PC5. place a piece of cloth or towel under the unit in order to avoid any dust/dirt on the floor	2	3	-	-
PC6. perform basic inspection of noisy operation, capacitor burn out etc. to diagnose reasons for not working of the appliance	2	4	-	-
PC7. identify reasons for faults in the fan	2	3	-	-
PC8. detect worn out through symptoms such as loud vibrating noise, abrupt shutting off etc.	2	3	-	2
PC9. detect basic electrical faults such as improper/no earth, defective power cord, connector orinternal wiring defect, loose/open contacts, blown fuse	2	3	-	1
PC10. inspect each module of the unit separately if the fault is not identified through basic tests	2	3	-	1
PC11. send it to factory/service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site	2	3	-	-
Replace/repair dysfunctional module in Fan	7	8	-	2







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. repair/replace component at location, if the fault identified is due to damage of components such as capacitor burn out, fuse blow, excessive heating etc.	3	4	-	1
PC13. schedule next appointment if the part can't be replaced on site	1	1	-	-
PC14. reassemble the unit to check that all the modules of the unit are working as per specifications	3	3	-	1
Confirm functionality of repaired unit	11	6	-	1
PC15. demonstrate functionality of the unit to the customer	3	2	-	1
PC16. provide information to the customer about cleaning procedures and precautions to be takenin order to avoid recurrence of problem	1	1	-	-
PC17. fill in customer acknowledgement form	2	2	-	-
PC18. complete all documentation procedures for complaint closure	2	-	-	-
PC19. complete all documentation procedures for complaint closure	2	1	-	-
PC20. sell related products such as new equipment or Annual Maintenance Contracts (AMC) as per company policy	1	-	-	-
NOS Total	40	50	-	10







National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3160
NOS Name	Repair dysfunctional Fan
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022







ELE/N3159: Repair dysfunctional LED and Other Lights

Description

This NOS unit is about understanding the customers complaints, identifying the fault and fixing the lights.

Scope

The scope covers the following:

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

Elements and Performance Criteria

Diagnose fault in Lights

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

- PC1. diagnose the fault based on customer interaction, usage pattern and initial inspection
- PC2. Identify the type of the appliance
- PC3. perform basic tests such as power supply inspection, etc.
 - earth test power supply, Internal check
- **PC4.** detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, loose/open contacts, blown fuse
- PC5. diagnose reasons for damage of the light like: water damage, heat damage, sensor damage etc.
- PC6. diagnose reasons for appliance not running due to overload circuit breaker tripping, no power supply etc.
- PC7. identify reasons for flickering, dimming, sparking or turning on and off by themselves
- PC8. detect problems occurring due to old wiring
- PC9. inspect each module of the unit separately if the fault is not identified through basic tests
- PC10. send it to factory/ service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site

Replace/repair dysfunctional module

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

- PC11. repair/replace component at location, if the fault identified is due to damage of components.
- PC12. schedule next appointment if the part can't be replaced on site
- PC13. reassemble the unit to check that all the modules of the unit are working as per specifications







Confirm functionality of the repaired unit

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

- PC14. demonstrate functionality of the unit to the customer
- **PC15.** provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem
- PC16. fill in customer acknowledgement form
- PC17. complete all documentation procedures for complaint closure
- PC18. collect necessary payments from the customer
- PC19. sell related products such as new equipment or annual maintenance contracts (AMC) as per company policy

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. damage free handling of the unit
- **KU2.** Different types of lights, features and functionalities. E.g. LED Lights, CFL, Incandescent Bulb etc.
- KU3. basic electrical fundamentals with regard to functioning of dimmer, filament, etc.
- **KU4.** basic electronics (knowledge of components such as diode, LED, phototransistor, capacitor, resistor, inductor, thermistor, ICs etc.
- **KU5.** fundamentals of electricity such as ohms law, difference between ac and dc, calculation of energy consumption of appliances, understanding of domestic wiring, understanding of series and parallel connections
- KU6. troubleshooting knowledge with respect to small home appliances
- KU7. hazards, their causes and prevention/personal safety
- KU8. frequently occurring faults such as abnormal noise during use, flickering etc.
- KU9. energy ratings such BEE rating
- KU10. other products of the company
- KU11. usage of multi-meter, tester, etc.

Generic Skills (GS)

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

- **GS1.** complete forms and other documentation
- GS2. read and comprehend manuals/text material/documents
- GS3. communicate in local/regional/English language
- **GS4.** interact with others in a polite and courteous manner
- GS5. comply with applicable standard operating procedures
- GS6. communicate with all stakeholders to be able to work efficiently







- GS7. seek inputs and guidance from the supervisor
- GS8. maintain proper etiquette while dealing with the customer
- GS9. interpret information clearly
- GS10. improve work processes
- GS11. ensure customer satisfaction
- GS12. document/record information as per company formats







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose fault in Lights	24	34	-	8
PC1. diagnose the fault based on customer interaction, usage pattern and initial inspection	2	3	-	1
PC2. Identify the type of the appliance	2	3	-	-
 PC3. perform basic tests such as power supply inspection, etc. earth test power supply, Internal check 	2	3	-	-
PC4. detect basic electrical faults such as improper/no earth, defective power cord, connector or internal wiring defect, loose/open contacts, blown fuse	3	4	-	2
PC5. diagnose reasons for damage of the light like: water damage, heat damage, sensor damage etc.	3	4	-	2
PC6. diagnose reasons for appliance not running due to overload circuit breaker tripping, no power supply etc.	3	4	-	2
PC7. identify reasons for flickering, dimming, sparking or turning on and off by themselves	3	4	-	1
PC8. detect problems occurring due to old wiring	2	3	-	-
PC9. inspect each module of the unit separately if the fault is not identified through basic tests	2	3	-	-
PC10. send it to factory/ service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site	2	3	-	-
Replace/repair dysfunctional module	6	10	-	1







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. repair/replace component at location, if the fault identified is due to damage of components.	3	5	-	1
PC12. schedule next appointment if the part can't be replaced on site	1	1	-	-
PC13. reassemble the unit to check that all the modules of the unit are working as per specifications	2	4	-	-
Confirm functionality of the repaired unit	10	6	-	1
PC14. demonstrate functionality of the unit to the customer	1	-	-	1
PC15. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem	1	-	-	-
PC16. fill in customer acknowledgement form	2	1	-	-
PC17. complete all documentation procedures for complaint closure	2	2	-	-
PC18. collect necessary payments from the customer	1	-	-	-
PC19. sell related products such as new equipment or annual maintenance contracts (AMC) as per company policy	3	3	-	-
NOS Total	40	50	-	10







National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3159
NOS Name	Repair dysfunctional LED and Other Lights
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022







ELE/N3158 Repair dysfunctional Cooler

Description

This NOS unit is about understanding the customer complaints, identifying the fault and fixing the Cooler

Scope

The scope covers the following:

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

Elements and Performance Criteria

Diagnose fault in Cooler

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

- PC1. diagnose the fault based on customer interaction, usage pattern and initial inspection
- PC2. unplug the appliance to carry out the inspection and diagnosis of faults
- PC3. perform basic tests
 - earth test power supply
- **PC4.** detect basic electrical faults or power problems such as improper/no earth, defective power cord, connector or internal wiring defect, loose/open contacts, blown fuse, open motor windings etc.
- PC5. diagnose problem in motors, pump, shaft, gaskets etc.
- PC6. diagnose reasons of dysfunctional pump, and blown out motor
- PC7. identify reasons for Overheating, noise etc.
- PC8. detect other problems such as issue with the switch, earthing etc.
- PC9. inspect each module of the unit separately if the fault is not identified through basic tests
- PC10. send it to factory/ service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site

Replace/repair dysfunctional module in Cooler

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

- PC11. repair/replace component at location, if the fault identified is due to damage of components such as blades, pump, motor
- PC12. schedule next appointment if the part can't be replaced on site







PC13. reassemble the unit to check that all the modules of the unit are working as per specifications

Confirm functionality of the repaired unit

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

- PC14. demonstrate functionality of the unit to the customer
- PC15. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem
- PC16. fill in customer acknowledgement form
- PC17. complete all documentation procedures for complaint closure
- PC18. collect necessary payments from the customer
- PC19. sell related products such as new equipment or Annual Maintenance Contracts (AMC) as per company policy

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. damage free handling of the unit
- KU2. different models of Cooler, their features and functionalities
- KU3. basic electrical fundamentals with regard to functioning of motors, pump, etc.
- **KU4.** basic electronics knowledge of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermistor, ICs
- KU5. functioning of various electromechanical parts of the Cooler
- **KU6.** fundamentals of electricity such as ohms law, difference between ac and dc, calculation of energy consumption of appliances, understanding of series and parallel connections
- KU7. how to diagnose the problem and fix dysfunctional appliance in designated time
- KU8. troubleshooting knowledge
- KU9. hazards, their causes and prevention/personal safety
- KU10. frequently occurring faults such as improper working of blades, heating of motor etc.
- KU11. Components of Cooler
- KU12. other products of the company
- KU13. usage of multi-meter, clamp meter, screwdriver etc.

Generic Skills (GS)

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

- GS1. complete forms and other documentation
- GS2. read and comprehend manuals/text material/documents







- GS3. communicate in local/regional/English language
- **GS4.** interact with others in a polite and courteous manner
- GS5. comply with applicable standard operating procedures
- GS6. communicate with all stakeholders to be able to work efficiently
- GS7. seek inputs and guidance from the supervisor
- GS8. maintain proper etiquette while dealing with the customer
- GS9. interpret information clearly
- GS10. improve work processes
- GS11. ensure customer satisfaction
- GS12. document/record information as per company formats







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Diagnose fault in Cooler	24	34	-	8
PC1. diagnose the fault based on customer interaction, usage pattern and initial inspection	2	3	-	1
PC2. unplug the appliance to carry out the inspection and diagnosis of faults	2	3	-	-
PC3.perform basic testsearth test power supply	2	3	-	-
PC4. detect basic electrical faults or power problems such as improper/no earth, defective power cord, connector or internal wiring defect, loose/open contacts, blown fuse, open motor windings etc.	3	4	-	2
PC5. diagnose problem in motors, pump, shaft, gaskets etc.	3	4	-	2
PC6. diagnose reasons of dysfunctional pump, and blown out motor	3	4	-	2
PC7. identify reasons for Overheating, noise etc.	3	4	-	1
PC8. detect other problems such as issue with the switch, earthing etc.	2	3	-	-
PC9. inspect each module of the unit separately if the fault is not identified through basic tests	2	3	-	-
PC10. send it to factory/ service centre/ franchise workshop for in-depth diagnosis if problem does not get identified at site	2	3	-	-
Replace/repair dysfunctional module in Cooler	6	10	-	1
PC11. repair/replace component at location, if the fault identified is due to damage of components such as blades, pump, motor	3	5	-	1







Transforming the skill landscape

Qualification	rack			
PC12. schedule next appointment if the part can't be replaced on site	1	1	-	-
PC13. reassemble the unit to check that all the modules of the unit are working as per specifications	2	4	-	-
Confirm functionality of the repaired unit	10	6	-	1
PC14. demonstrate functionality of the unit to the customer	1	-	-	1
PC15. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem	1	-	-	-
PC16. fill in customer acknowledgement form	2	1	-	-
PC17. complete all documentation procedures for complaint closure	2	2	-	-
PC18. collect necessary payments from the customer	1	-	-	-
PC19. sell related products such as new equipment or Annual Maintenance Contracts (AMC) as per company policy	3	3	-	-
NOS Total	40	50	-	10







National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3158
NOS Name	Repair dysfunctional Cooler
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022







ELE/N1003: Work effectively, sustainably and safely

Description

This unit is about following health and safety procedures, waste management procedures and resource management in order to achieve required productivity and quality.

Scope

The scope covers the following:

- · Achieve optimum productivity and quality
- Implement health and safety procedures
- Organise waste management and recycling
- Conserve resources

Elements and Performance Criteria

Achieve optimum productivity and quality

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

- PC1. keep immediate work area clean and tidy
- PC2. work effectively to meet daily target
- PC3. deliver work of expected quality despite constraints
- PC4. ensure timely completion of tasks
- PC5. comply with organization's policies and procedures

Implement health and safety procedures

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

- PC6. take ESD precautions while doing work
- PC7. avoid any damage in components due to negligence in ESD procedures
- PC8. participate in fire drills or any other safety workshops organised by the organisation
- PC9. use appropriate Personal Protective Equipment (PPE) as advised by the organisation

Organise waste management and recycling

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

- PC10. identify and segregate recyclable/non-recyclable and hazardous wastes
- PC11. dispose waste as per the suggested procedures by the organization
- PC12. participate in waste management and waste disposal workshops organised at workplace

Conserve resources

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

- PC13. use all resources judiciously
- PC14. perform routine cleaning of tools, machines and equipment
- PC15. report malfunctioning of machines and equipment
- PC16. connect electrical equipment and appliances properly when in use and turn off when not in use







Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. importance of time management
- KU2. organizational safety and health policy
- **KU3.** different waste categories such as dry, wet, recyclable, non-recyclable and single use plastic items
- KU4. usage of different colours of dustbins to dispose waste
- KU5. cause and effect of greening of jobs
- KU6. methods of waste disposal
- KU7. methods of recycling as well as repairing and reusing electronic components
- KU8. efficient utilisation of material and water
- **KU9.** basics of electricity and prevalent energy efficient devices
- KU10. ways to recognise common electrical problems
- KU11. common practices of conserving electricity

Generic Skills (GS)

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

- GS1. read job cards/complaint registers for the work requirement
- GS2. organise work and be punctual
- GS3. read instructions, warnings, labels on equipment while doing work
- GS4. escalate any health and safety issues to supervisors
- GS5. report any inappropriate incidents/issues to the relevant person
- GS6. write in local/English language and complete written work with attention to detail







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Achieve optimum productivity and quality	12	18	-	-
PC1. keep immediate work area clean and tidy	2	4	-	-
PC2. work effectively to meet daily target	2	4	-	-
PC3. deliver work of expected quality despite constraints	2	3	-	-
PC4. ensure timely completion of tasks	3	4	-	-
PC5. comply with organization's policies and procedures	3	3	-	-
Implement health and safety procedures	9	14	-	-
PC6. take ESD precautions while doing work	2	4	-	-
PC7. avoid any damage in components due to negligence in ESD procedures	2	3	-	-
PC8. participate in fire drills or any other safety workshops organised by the organisation	2	3	-	-
PC9. use appropriate Personal Protective Equipment (PPE) as advised by the organisation	3	4	-	-
Organise waste management and recycling	8	12	-	-
PC10. identify and segregate recyclable/non-recyclable and hazardous wastes	3	4	-	-
PC11. dispose waste as per the suggested procedures by the organization	2	4	-	-
PC12. participate in waste management and waste disposal workshops organised at workplace	3	4	-	-
Conserve resources	11	16	-	-
PC13. use all resources judiciously	2	4	-	-
PC14. perform routine cleaning of tools, machines and equipment	3	4	-	-







Viva Theory Practical Project **Assessment Criteria for Outcomes** Marks Marks Marks Marks PC15. report malfunctioning of machines and 3 4 equipment PC16. connect electrical equipment and appliances properly when in use and turn off 3 4 when not in use **NOS Total** 40 60

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N1003
NOS Name	Work effectively, sustainably and safely
Sector	Electronics
Sub-Sector	Generic
Occupation	Generic - Health Safety
NSQF Level	3
Credits	TBD
Version	2.0
Next Review Date	NA







DGT/VSQ/N0102: Employability Skills

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

Evaluating an opportunity before starting a micro- enterprise Setting up an enterprise

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the individual must be able to:

PC1. Identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values – Citizenship

PC3.recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC4.follow environmentally sustainable practices

Becoming a Professional in the 21st Century

PC5.recognize the significance of 21st Century Skills for employment

PC6. practice the 21st Century Skills such as Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

PC7.use basic English for everyday conversation in different contexts, in person and over the telephone

PC8.read and understand routine information, notes, instructions, mails, letters etc. written in English **PC9**.write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

PC10.understand the difference between job and career

PC11.prepare a career development plan with short- and long-term goals, based on aptitude







PC12.follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13.work collaboratively with others in a team

Diversity & Inclusion

PC14.communicate and behave appropriately with all genders and PwD PC15.escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

PC16.select financial institutions, products and services as per requirement

PC17.carry out offline and online financial transactions, safely and securely

PC18.identify common components of salary and compute income, expenses, taxes, investments etc.

PC19.identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

PC20.operate digital devices and carry out basic internet operations securely and safely PC21.use e- mail and social media platforms and virtual collaboration tools to work effectively PC22.use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

PC23.identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC25.identify sources of funding, anticipate, and mitigate any financial/legal hurdles for the potential business opportunity

Customer Service

PC26.identify different types of customers

PC27.identify and respond to customer requests and needs in a professional manner

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

PC29.create a professional Curriculum vitae (Résumé)

PC30.search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31.apply to identified job openings using offline /online methods as per requirement

PC32.answer questions politely, with clarity and confidence, during recruitment and selection

PC33.identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:







- KU1. need for employability skills and different learning and employability related portals
- KU2. various constitutional and personal values
- KU3. different environmentally sustainable practices and their importance
- KU4. 21st century skills and their importance
- KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up
- KU6. importance of career development and setting long- and short-term goals
- KU7. about effective communication
- KU8. POSH Act
- KU9. Gender sensitivity and inclusivity
- KU10. different types of financial institutes, products, and services
- KU11. how to compute income and expenditure
- KU12. importance of maintaining safety and security in offline and online financial transactions
- KU13. different legal rights and laws
- KU14. different types of digital devices and the procedure to operate them safely and securely
- KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.
- KU16. how to identify business opportunities
- KU17. types and needs of customers
- KU18. how to apply for a job and prepare for an interview
- KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

- GS1. read and write different types of documents/instructions/correspondence
- **GS2.** communicate effectively using appropriate language in formal and informal settings
- **GS3.** behave politely and appropriately with all
- **GS4.** how to work in a virtual mode
- **GS5.** perform calculations efficiently
- **GS6.** solve problems effectively
- **GS7.** pay attention to details
- **GS8.** manage time efficiently
- **GS9.** maintain hygiene and sanitization to avoid infection







Assessment Criteria

DGT/VSQ/N0102: Employability Skills				
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	2	-	-	-
PC1. Identify employability skills required for jobs in various industries	1	-	-	-
PC2. identify and explore learning and employability portals	1			
Constitutional values – Citizenship	2	-	-	-
PC3.recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc	1	-	-	-
PC4.follow environmentally sustainable practices	1			
Becoming a Professional in the 21st Century	6	-	-	-
PC5. recognize the significance of 21st Century Skills for employment	3	-	-	-
PC6.practice the 21st Century Skills such as Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	3			
Basic English Skills	6	-	-	-
PC7.use basic English for everyday conversation in different contexts, in person and over the telephone	2	-	-	-
PC8 .read and understand routine information, notes, instructions, mails, letters etc. written in English	2			







	Quanneach			
PC9.write short messages, notes, letters, e-mails etc. in English	2			
Career Development & Goal Setting	3	-	-	-
PC10.understand the difference between job and career	2	-	-	-
PC11.prepare a career development plan with short- and long-term goals, based on aptitude		-	-	-
Communication Skills	4			
PC12.follow verbal and non-verbal communication etiquette and active listening techniques in various settings	2			
PC13.work collaboratively with others in a team	2			
Diversity & Inclusion	2	-	-	-
PC14.communicate and behave appropriately with all genders and PwD	1	-	-	-
PC15.escalate any issues related to sexual harassment at workplace according to POSH Act	1	-	-	-
Financial and Legal Literacy	5	-	-	-
PC16.select financial institutions, products and services as per requirement	2			
PC17.carry out offline and online financial transactions, safely and securely	1	-	-	-
PC18.identify common components of salary and compute income, expenses, taxes, investments etc	1	-	-	-
PC19.identify relevant rights and laws and use legal aids to fight against legal exploitation	1	-	-	-







Transforming the skill landscape

	Qualification	on Pack		
Essential Digital Skills	8	-	-	-
PC20.operate digital devices and carry out basic internet operations securely and safely	4	-	-	-
PC21.use e- mail and social media platforms and virtual collaboration tools to work effectively	2			
PC22.use basic features of word processor, spreadsheets, and presentations	2	-	-	-
Entrepreneurship	4	-	-	-
PC23.identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	2	-	-	-
PC24.develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	1	-	-	-
PC25.identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	1			
Customer Service	3	-	-	-
PC26.identify different types of customers	2			
PC27.identify and respond to customer requests and needs in a professional manner	1			
Getting ready for apprenticeship & Jobs	5	-	-	-
PC29.create a professional Curriculum vitae (Résumé)	1	-	-	-
PC30.search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	1	-	-	-







PC31.apply to identified job openings using offline /online methods as per requirement	1	-	-	-
PC32.answer questions politely, with clarity and confidence, during recruitment and selection	1			
PC33.identify apprenticeship opportunities and register for it as per guidelines and requirements	1	-	-	-
NOS Total	50	-	-	-

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills
Sector	Electronics
Sub-Sector	Life Skills
Occupation	Employability Skills
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022







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: 50

(**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	15
ELE/N3157. Installation and Repair of dysfunctional Iron	40	50	-	10	100	20
ELE/N3160. Repair dysfunctional Fan	40	50	-	10	100	20
ELE/N3159. Repair dysfunctional LED and Other Lights	40	50	-	10	100	20
ELE/N3158. Repair dysfunctional Cooler	40	50	-	10	100	15
ELE/N1003.Work effectively, sustainably and safely	40	60	-	-	100	5
DGT/VSQ/N0102. Employability Skills	50	-	-	-	50	5
Total	290	310	-	50	650	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.