

Qualification Pack



Field Engineer RACW

QP Code: ELE/Q3105

Version: 3.0

NSQF Level: 5

Electronics Sector Skills Council of India || 155, 2nd Floor, ESC House Okhla Industrial Area-Phase 3
New Delhi- 110020 || email: rakhi@essc-india.org



Qualification Pack

Contents

ELE/Q3105: Field Engineer RACW	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
ELE/N3101: Engage with customer for service	5
ELE/N3112: Perform installation and repair of refrigerator	9
ELE/N3114: Perform installation and repair of air conditioners	17
ELE/N3116: Perform installation and repair of washing machine	24
ELE/N1002: Apply health and safety practices at the workplace	32
DGT/VSQ/N0102: Employability Skills (60 Hours)	40
Assessment Guidelines and Weightage	47
<i>Assessment Guidelines</i>	47
<i>Assessment Weightage</i>	48
Acronyms	49
Glossary	50



Qualification Pack

ELE/Q3105: Field Engineer RACW

Brief Job Description

The individual interacts with customers to install the appliance, diagnose the problem to assess possible causes of malfunction, rectifies minor problems, and replaces faulty modules for failed parts or recommends factory repairs for bigger faults.

Personal Attributes

The individual must be willing to work in the field and travel through the day from one customer's 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/N3112: Perform installation and repair of refrigerator](#)
- [3. ELE/N3114: Perform installation and repair of air conditioners](#)
- [4. ELE/N3116: Perform installation and repair of washing machine](#)
- [5. ELE/N1002: Apply health and safety practices at the workplace](#)
- [6. DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
Country	India
NSQF Level	5
Credits	25

Qualification Pack

Aligned to NCO/ISCO/ISIC Code	NCO-2015/7241.1001
Minimum Educational Qualification & Experience	<p>Diploma (after 10 (Electronics/Electrical/Mechanical))) with 1 Year of experience Relevant Experience OR 12th grade pass with 1 year NTC/ NAC with 1 Year of experience Relevant Experience OR 12th grade Pass with 2 Years of experience Relevant Experience OR Previous relevant Qualification of NSQF Level (4) with 3 Years of experience Relevant Experience OR 10th grade pass with 4 Years of experience Relevant Experience</p>
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	27/01/2025
NSQC Approval Date	27/01/2022
Version	3.0
Reference code on NQR	QG-05-EH-01340-2023-V1.1-ESSC
NQR Version	1.0

Remarks:

NA

Qualification Pack

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



Qualification Pack

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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interacting with customer</i>	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 and history of problems in the appliance	5	6	-	1
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	6	5	-	1
<i>Suggest possible solutions</i>	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



Qualification Pack

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	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

ELE/N3112: Perform installation and repair of refrigerator

Description

This NOS unit is about installation of newly purchased refrigerator at customer location and repair in case of any dysfunction.

Scope

The scope covers the following :

- This unit/ task covers the following:
- Prepare for installation of refrigerator
- Install refrigerator at customer location
- Diagnose, repair and replace the dysfunctional module of refrigerator
- Complete documentation
- Coordinate with others w.r.t. installation and repair

Elements and Performance Criteria

Prepare for installation of refrigerator

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

- PC1.** identify work requirement from superior on regular basis
- PC2.** visit customer location as scheduled
- PC3.** provide guidance to the customer for pre-installation requirement as per the appliance w.r.t platform for placing the appliance, plug point, etc.
- PC4.** remove the packaging from the appliance delivered at the customer location
- PC5.** verify that the product matches the customer's order in terms of colour, model etc. with all supporting accessories
- PC6.** check the availability of all tools and fitments for the installation
- PC7.** clear up the packaging material waste and dispose as per company's norms
- PC8.** seek customer's input on placing/positioning the appliance near a plug point, in obstruction-free area, while maintaining the required distance from wall and floor

Install refrigerator at customer location

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

- PC9.** perform steps to fit water-disposal beaker, handle, shelves, basket and side buckets
- PC10.** connect the refrigerator to power supply and set cooling/freezer temperature knobs according to the season so as to demonstrate features/utility
- PC11.** inform the customer about the precautions to be taken while using the refrigerator and heating of outside walls of the refrigerator
- PC12.** explain maintenance procedures to be followed while using the refrigerator

Diagnose, repair and replace the dysfunctional module of refrigerator

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

- PC13.** verify thermostat settings to ensure they are as required

Qualification Pack

- PC14.** diagnose the fault based on customer interaction, usage pattern and initial inspection
- PC15.** unplug the appliance to carry out further inspection
- PC16.** perform basic tests such as power supply inspection, volt ampere test and earth test power supply
- PC17.** inspect every module of the unit separately if the fault is not identified through basic tests such as compressor, motors, PCB, condenser optimise the time taken to fix the dysfunctional refrigerator
- PC18.** send it to factory for in-depth diagnosis if problem does not get identified at site
- PC19.** repair/replace component at location, if the fault identified is due to damage of components
- PC20.** schedule next appointment if the part can't be replaced on site
- PC21.** reassemble the unit to check that all the modules of the unit are working as per specifications
- PC22.** demonstrate functionality of the unit to the customer
- PC23.** provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem
- PC24.** sell related products such as new equipment or annual maintenance contracts (AMC) to the customer

Complete documentation

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

- PC25.** fill in customer acknowledgement form and get it signed by customer, both in case of installation and repair
- PC26.** document the work completed on the company ERP software for tracking and inform customer care as well as supervisor about job completion
- PC27.** complete all documentation procedures for complaint closure
- PC28.** collect necessary payments from the customer and issue invoice accordingly

Coordinate with others w.r.t. installation and repair

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

- PC29.** escalate customer issues and problems that are unresolved at field level, including queries on non-field service areas
- PC30.** interact with service technicians from time to time in order to understand problems faced on the field
- PC31.** provide training to junior level technicians about installation procedures, diagnosis procedures and customer handling

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.** different types of refrigerators such as traditional, frost-free, peltier with all features and functionalities of various models
- KU3.** refrigerator manufacturing capabilities of the organisation, models of the company and their respective features

Qualification Pack

- KU4.** installation-site requirements such as structural requirements, ventilation, etc.
- KU5.** damage free handling of the unit
- KU6.** refrigeration cycle and functioning of the appliance and its various modules, including various electromechanical parts of the refrigerator
- KU7.** method of refrigeration, its use and functioning of refrigerator sealed system
- KU8.** types of refrigerants such as R12, R22, R134a, R290, R600a, R410, R32, use of different brazing sticks, types of brazing torches, fluxes and their application
- KU9.** manual-based procedure of installing the refrigerators
- KU10.** methods of fixing various accessories, parts that have accompanied the unit and their features
- KU11.** how to use the appliance and its various features/functionalities after installation
- KU12.** use of test equipment and tools such as multi-meter, oscilloscope etc.
- KU13.** safety precautions/rules, policies, procedures and quality standards to be followed
- KU14.** fundamentals of electricity such as ohms law, difference between ac and dc, understanding of domestic wiring, understanding of series and parallel connections
- KU15.** how to rectify so as to avoid repeat fault in the refrigerator
- KU16.** selection of appropriate spares for replacement
- KU17.** basic knowledge of components such as diode, transformer, LED, photo transistor, capacitor, thermistor ICs etc.
- KU18.** components/modules of refrigerators and their prices
- KU19.** packaging waste disposal procedures
- KU20.** refrigerator energy ratings such as BEE rating
- KU21.** troubleshooting knowledge with respect to refrigerators
- KU22.** hazards, their causes and prevention/personal safety
- KU23.** frequently occurring faults such as noise, water dripping and insufficient cooling, their causes and solutions
- KU24.** other products of the company

Generic Skills (GS)

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

- GS1.** complete forms and other documentation
- GS2.** read and comprehend text material
- GS3.** listen attentively
- 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
- GS10.** interpret information clearly



Qualification Pack

- GS11.** improve work processes
- GS12.** ensure customer satisfaction
- GS13.** work effectively to achieve daily target

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of refrigerator</i>	12	12	-	1
PC1. identify work requirement from superior on regular basis	2	1	-	-
PC2. visit customer location as scheduled	1	-	-	-
PC3. provide guidance to the customer for pre-installation requirement as per the appliance w.r.t platform for placing the appliance, plug point, etc.	2	-	-	-
PC4. remove the packaging from the appliance delivered at the customer location	2	2	-	-
PC5. verify that the product matches the customer's order in terms of colour, model etc. with all supporting accessories	-	4	-	-
PC6. check the availability of all tools and fitments for the installation	3	3	-	-
PC7. clear up the packaging material waste and dispose as per company's norms	-	2	-	-
PC8. seek customer's input on placing/positioning the appliance near a plug point, in obstruction-free area, while maintaining the required distance from wall and floor	2	-	-	1
<i>Install refrigerator at customer location</i>	5	5	-	1
PC9. perform steps to fit water-disposal beaker, handle, shelves, basket and side buckets	1	2	-	-
PC10. connect the refrigerator to power supply and set cooling/freezer temperature knobs according to the season so as to demonstrate features/utility	1	3	-	1
PC11. inform the customer about the precautions to be taken while using the refrigerator and heating of outside walls of the refrigerator	1	-	-	-
PC12. explain maintenance procedures to be followed while using the refrigerator	2	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Diagnose, repair and replace the dysfunctional module of refrigerator</i>	11	16	-	6
PC13. verify thermostat settings to ensure they are as required	-	1	-	-
PC14. diagnose the fault based on customer interaction, usage pattern and initial inspection	1	1	-	1
PC15. unplug the appliance to carry out further inspection	1	1	-	-
PC16. perform basic tests such as power supply inspection, volt ampere test and earth test power supply	1	3	-	1
PC17. inspect every module of the unit separately if the fault is not identified through basic tests such as compressor, motors, PCB, condenser optimise the time taken to fix the dysfunctional refrigerator	1	3	-	1
PC18. send it to factory for in-depth diagnosis if problem does not get identified at site	1	-	-	-
PC19. repair/replace component at location, if the fault identified is due to damage of components	1	2	-	-
PC20. schedule next appointment if the part can't be replaced on site	1	-	-	-
PC21. reassemble the unit to check that all the modules of the unit are working as per specifications	1	2	-	1
PC22. demonstrate functionality of the unit to the customer	-	2	-	1
PC23. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem	1	-	-	-
PC24. sell related products such as new equipment or annual maintenance contracts (AMC) to the customer	2	1	-	1
<i>Complete documentation</i>	5	7	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. fill in customer acknowledgement form and get it signed by customer, both in case of installation and repair	2	2	-	-
PC26. document the work completed on the company ERP software for tracking and inform customer care as well as supervisor about job completion	1	3	-	-
PC27. complete all documentation procedures for complaint closure	1	2	-	-
PC28. collect necessary payments from the customer and issue invoice accordingly	1	-	-	-
<i>Coordinate with others w.r.t. installation and repair</i>	7	10	-	2
PC29. escalate customer issues and problems that are unresolved at field level, including queries on non-field service areas	2	2	-	-
PC30. interact with service technicians from time to time in order to understand problems faced on the field	2	4	-	1
PC31. provide training to junior level technicians about installation procedures, diagnosis procedures and customer handling	3	4	-	1
NOS Total	40	50	-	10



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3112
NOS Name	Perform installation and repair of refrigerator
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	After Sales Service
NSQF Level	4
Credits	TBD
Version	3.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

ELE/N3114: Perform installation and repair of air conditioners

Description

This NOS is about understanding the installation or repair requirements for air conditioners, perform the tasks at customer premises to achieve the required productivity and quality.

Scope

The scope covers the following :

- This unit/task covers the following:
- Perform pre-installation checks
- Install the air conditioner
- Analyze symptoms, identify and rectify faults
- Complete documentation

Elements and Performance Criteria

Perform pre-installation checks

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

- PC1.** analyze the work requirements by interacting with the supervisor
- PC2.** plan to visit customer premises to understand the installation position of air conditioner such as window, split, high, low, etc
- PC3.** check that the location meets structural requirements such as distance from power supply, distance from windows/doors being opened frequently
- PC4.** inform customer about any pre installations/masonry/electrical work to be carried out
- PC5.** mark position for placement of indoor/outdoor units to get customer confirmation on position and installation on next visit

Install the air conditioner

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

- PC6.** remove the air conditioner packaging without causing any damage and ensure that it matches the customer order in terms of colour
- PC7.** check that all supporting accessories are available in the pack
- PC8.** inspect that tools and fitments required for the installation are available
- PC9.** dispose off the packaging material waste as per company's norms
- PC10.** measure the location to drill holes ensuring that no internal wiring damage takes place
- PC11.** mount the indoor unit and ensure that the screws are fastened securely
- PC12.** place the outdoor unit at a suitable location and attach it firmly to wall/floor
- PC13.** connect the indoor and the outdoor units using the field copper pipe of appropriate size and interconnecting cables
- PC14.** fill in additional gas if the distance between the indoor and the outdoor units is more than what is recommended

Qualification Pack

- PC15.** align the air conditioner as per the instructions manual and make necessary power supply connections
- PC16.** demonstrate the features/utility to customer for the new installation while explaining the precautions to be taken while using the air conditioner

Analyze symptoms, identify and rectify faults

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

- PC17.** analyze usage pattern of the air conditioner from the customer
- PC18.** diagnose the fault based on customer interaction and initial inspection by carrying out basic tests such as power supply inspection, volt ampere test, etc.
- PC19.** separate and inspect every module of the unit if the fault is not identified through basic tests
- PC20.** plan to send air conditioner to factory for in-depth diagnosis, if problem cannot be identified at site
- PC21.** repair or replace faulty part as per requirement at customer location or send it to service center on time in case immediate repair is not possible for specialized parts such as PCB
- PC22.** plan second visit to replace dysfunctional module/part after collecting it from service center
- PC23.** carry out brazing operation at the customer premise or pass the complaint on to a specialist in-charge of handling brazing, if the fault identified is a gas leak
- PC24.** reassemble the unit after rectifying identified fault
- PC25.** check that all the modules of the unit work as per specifications and confirm functionality to the customer
- PC26.** collect necessary payment from the customer as per rate sheet/ communication from customer care and provide the receipt

Complete documentation

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

- PC27.** fill in customer acknowledgement form and seek customer's signature
- PC28.** complete documentation for recording installation/repair of air conditioner and update the company ERP software for tracking/future references
- PC29.** inform customer care and supervisor about job completion

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** safety rules, policies, procedures and quality standards to be followed
- KU2.** installation-site requirements such as structural requirements, ventilation, etc.
- KU3.** manual-based procedure of installing the air conditioner
- KU4.** how to fix various accessories and parts that have accompanied the unit
- KU5.** how to operate tools such as screw drivers, electric drill for installation
- KU6.** packaging waste disposal procedures
- KU7.** how to operate the air conditioner and use the various features
- KU8.** method of air conditioning, its use and functioning of sealed system
- KU9.** troubleshooting knowledge with respect to air conditioners

Qualification Pack

- KU10.** frequently occurring faults such as poor/no cooling, noisy unit, condensation water over flowing and basic electrical faults such as improper/no earthing, defective power cord, etc
- KU11.** basic electrical and mechanical modules of air conditioner
- KU12.** usage of test equipment and tools such as multi-meter, oscilloscope, temperature meter, pressure gauges, etc.
- KU13.** how to detect defects in the compressor, condenser and other problems such as improper alignment of unit, low refrigerant charge, etc along with their reasons
- KU14.** how to diagnose reasons for improper cooling by diagnosing causes such as dirty filter, blocked coil, bent fins, improper damper setting, low capacity of unit, etc.
- KU15.** fundamentals of electricity such as ohms law, difference between ac and dc, etc., basic electronic components such as diode, transformer, LED, photo transistor, etc., electrical and electronic symbols, multiples and SI units
- KU16.** basics of types of refrigerants such as R12, R22, R134a, R290, R600a, R410, R32
- KU17.** use of different brazing sticks, types of brazing torches, types of fluxes and their application
- KU18.** how to document completion note for customer
- KU19.** how to record completion information in the ERP system

Generic Skills (GS)

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

- GS1.** read and comprehend documentation
- GS2.** communicate with the customer in a polite and courteous manner
- GS3.** anticipate and avoid hazards that may occur while carrying out the work
- GS4.** how to operate computers and software installed
- GS5.** work effectively to reduce repetition of errors
- GS6.** improve work processes
- GS7.** write in local/English language clearly
- GS8.** co-ordinate with different departments as per the requirement

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform pre-installation checks</i>	10	7	-	1
PC1. analyze the work requirements by interacting with the supervisor	2	1	-	-
PC2. plan to visit customer premises to understand the installation position of air conditioner such as window, split, high, low, etc	2	1	-	-
PC3. check that the location meets structural requirements such as distance from power supply, distance from windows/doors being opened frequently	2	2	-	1
PC4. inform customer about any pre installations/masonry/electrical work to be carried out	2	1	-	-
PC5. mark position for placement of indoor/outdoor units to get customer confirmation on position and installation on next visit	2	2	-	-
<i>Install the air conditioner</i>	14	22	-	3
PC6. remove the air conditioner packaging without causing any damage and ensure that it matches the customer order in terms of colour	1	2	-	-
PC7. check that all supporting accessories are available in the pack	2	2	-	1
PC8. inspect that tools and fitments required for the installation are available	2	2	-	1
PC9. dispose off the packaging material waste as per company's norms	1	2	-	-
PC10. measure the location to drill holes ensuring that no internal wiring damage takes place	2	2	-	-
PC11. mount the indoor unit and ensure that the screws are fastened securely	1	2	-	-
PC12. place the outdoor unit at a suitable location and attach it firmly to wall/floor	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. connect the indoor and the outdoor units using the field copper pipe of appropriate size and interconnecting cables	1	3	-	-
PC14. fill in additional gas if the distance between the indoor and the outdoor units is more than what is recommended	1	1	-	-
PC15. align the air conditioner as per the instructions manual and make necessary power supply connections	2	2	-	-
PC16. demonstrate the features/utility to customer for the new installation while explaining the precautions to be taken while using the air conditioner	2	2	-	1
<i>Analyze symptoms, identify and rectify faults</i>	12	17	-	5
PC17. analyze usage pattern of the air conditioner from the customer	2	2	-	-
PC18. diagnose the fault based on customer interaction and initial inspection by carrying out basic tests such as power supply inspection, volt ampere test, etc.	1	2	-	1
PC19. separate and inspect every module of the unit if the fault is not identified through basic tests	1	2	-	1
PC20. plan to send air conditioner to factory for in-depth diagnosis, if problem cannot be identified at site	1	1	-	-
PC21. repair or replace faulty part as per requirement at customer location or send it to service center on time in case immediate repair is not possible for specialized parts such as PCB	1	3	-	2
PC22. plan second visit to replace dysfunctional module/part after collecting it from service center	1	1	-	-
PC23. carry out brazing operation at the customer premise or pass the complaint on to a specialist in-charge of handling brazing, if the fault identified is a gas leak	1	2	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. reassemble the unit after rectifying identified fault	2	2	-	-
PC25. check that all the modules of the unit work as per specifications and confirm functionality to the customer	1	1	-	-
PC26. collect necessary payment from the customer as per rate sheet/ communication from customer care and provide the receipt	1	1	-	-
<i>Complete documentation</i>	4	4	-	1
PC27. fill in customer acknowledgement form and seek customer's signature	2	1	-	-
PC28. complete documentation for recording installation/repair of air conditioner and update the company ERP software for tracking/future references	1	2	-	1
PC29. inform customer care and supervisor about job completion	1	1	-	-
NOS Total	40	50	-	10



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3114
NOS Name	Perform installation and repair of air conditioners
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	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

ELE/N3116: Perform installation and repair of washing machine

Description

This NOS unit is about installation of newly purchased appliance washing machine at customer location and repair in case of any dysfunction.

Scope

The scope covers the following :

- This unit/ task covers the following:
- Prepare for installation of washing machine
- Install washing machine at customer location
- Diagnose, repair and replace the faulty module of appliance
- Complete documentation
- Coordinate with others w.r.t. installation and repair

Elements and Performance Criteria

Prepare for installation of washing machine

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

- PC1.** identify work requirement from the superior
- PC2.** visit customer location as scheduled
- PC3.** provide guidance to the customer for pre-installation requirement as per the appliance w.r.t structure, plug point, drainage, plumbing etc.
- PC4.** remove the packaging from the appliance delivered at the customer location
- PC5.** verify that the product matches the customer's order in terms of colour, model etc. along with all supporting accessories
- PC6.** check the availability of all tools and fitments for the installation
- PC7.** clear up the packaging material waste and dispose as per company's norms
- PC8.** seek customer's input on placing/positioning the appliance near a plug point, in obstruction-free area, while maintaining the required distance from water tank
- PC9.** position the washing machine on appropriate platform as per location guidelines given in the installation manual

Install washing machine at customer location

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

- PC10.** remove all transport pins or anything lying in the drum of the washing machine before starting the machine
- PC11.** check the necessary plumbing installations required for water inlet and outlet
- PC12.** connect the machine's drain hose with the sewage pipe to ensure proper drainage
- PC13.** identify the water inlet valve in the household plumbing
- PC14.** ensure that the valve is turned off while connecting the PVC hose water inlet of the washing machine to the valve

Qualification Pack

- PC15.** connect the waste water outlet from the washing machine to the waste system such that the dirty water does not get siphoned back into the washing machine
- PC16.** perform steps to make inlet, outlet and power supply connections securely using the correct tools and equipment for installation
- PC17.** operate and check that there are no leaks and the machine is in a safe and stable condition
- PC18.** educate the customer about switching off the unit during voltage fluctuations and use of voltage regulators, if necessary
- PC19.** provide information to the customer on proper operation and maintenance procedures

Diagnose, repair and replace the faulty module of appliance

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

- PC20.** diagnose the fault based on customer interaction, usage pattern and initial inspection
- PC21.** unplug the appliance to carry out further inspection
- PC22.** perform basic tests such as power supply inspection, volt ampere test and earth test power supply
- PC23.** inspect every module of the unit separately if the fault is not identified through basic tests
- PC24.** send it to factory for in-depth diagnosis if problem does not get identified at site
- PC25.** repair/replace component at location, if the fault identified is due to damage of components
- PC26.** schedule next appointment if the part can't be replaced on site
- PC27.** reassemble the unit to check that all the modules of the unit are working as per specifications
- PC28.** demonstrate functionality of the unit to the customer
- PC29.** provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem

Complete documentation

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

- PC30.** fill in customer acknowledgement form and get it signed by customer, both in case of installation and repair
- PC31.** document the work completed on the company ERP software for tracking and inform customer care as well as supervisor about job completion
- PC32.** complete all documentation procedures for complaint closure
- PC33.** collect necessary payments from the customer and issue invoice accordingly

Coordinate with others w.r.t. installation and repair

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

- PC34.** escalate customer issues and problems that are unresolved at field level, including queries on non-field service areas
- PC35.** interact with service technicians from time to time in order to understand problems faced on the field
- PC36.** provide training to junior level technicians about installation procedures, diagnosis procedures and customer handling

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

Qualification Pack

- KU1.** company's policy on product's warranty, sales, installation, after sales support policy and other terms and conditions
- KU2.** installation site requirements (structural requirements, ventilation, etc.) with all safety precautions to be taken while installing washing machine
- KU3.** different types of washing machines such as front load and top load their features and functionalities
- KU4.** controls, features and functionalities of various washing machine models of the company
- KU5.** safety precautions/rules, policies, procedures and quality standards to be followed
- KU6.** manual-based procedure of installing the washing machine
- KU7.** methods of fixing various accessories, parts that have accompanied the washing machine
- KU8.** packaging waste disposal procedures
- KU9.** how to use the appliance and its various features/functionalities after installation
- KU10.** use of test equipment and tools such as multi-meter, oscilloscope etc.
- KU11.** damage free handling of the unit
- KU12.** different cycles in the machine running process and possible symptoms of faults in respective cycles
- KU13.** fundamentals of electricity such as ohms law, difference between ac and dc, understanding of domestic wiring, series and parallel connections
- KU14.** fundamentals of motors, types of motors and their working methods
- KU15.** basic knowledge of components such as diode, transformer, LED, photo transistor, capacitor, thermistor ICs etc. and functioning of components and parts such as solenoids and plungers
- KU16.** basics of gears, behaviour of gear mechanism, understanding of linear and angular movements, concepts such as rpm, torque etc.
- KU17.** types of switches such as thermal, mechanical, electronic, magnetic, electromagnetic, electromechanical, pressure optical and bimetal
- KU18.** troubleshooting knowledge with respect to washing machine
- KU19.** causes and solutions of faults common to all types of washing machines, faults specific to different models and frequently occurring faults such as noise, water not filling/over filling, water not draining
- KU20.** components/modules of the washing machine and their prices
- KU21.** hazards, their causes and prevention/personal safety
- KU22.** other products of the company

Generic Skills (GS)

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

- GS1.** complete forms and other documentation
- GS2.** read and comprehend text material
- GS3.** listen carefully while interacting with others
- GS4.** communicate in local/regional/English language
- GS5.** interact with others in a polite and courteous manner
- GS6.** comply with applicable standard operating procedures



Qualification Pack

- 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
- GS10.** interpret information clearly
- GS11.** improve work processes

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for installation of washing machine</i>	11	11	-	1
PC1. identify work requirement from the superior	2	1	-	-
PC2. visit customer location as scheduled	1	-	-	-
PC3. provide guidance to the customer for pre-installation requirement as per the appliance w.r.t structure, plug point, drainage, plumbing etc.	2	-	-	-
PC4. remove the packaging from the appliance delivered at the customer location	2	2	-	-
PC5. verify that the product matches the customer's order in terms of colour, model etc. along with all supporting accessories	-	2	-	-
PC6. check the availability of all tools and fitments for the installation	2	3	-	-
PC7. clear up the packaging material waste and dispose as per company's norms	-	2	-	-
PC8. seek customer's input on placing/positioning the appliance near a plug point, in obstruction-free area, while maintaining the required distance from water tank	1	-	-	1
PC9. position the washing machine on appropriate platform as per location guidelines given in the installation manual	1	1	-	-
<i>Install washing machine at customer location</i>	10	8	-	2
PC10. remove all transport pins or anything lying in the drum of the washing machine before starting the machine	1	1	-	-
PC11. check the necessary plumbing installations required for water inlet and outlet	1	-	-	-
PC12. connect the machine's drain hose with the sewage pipe to ensure proper drainage	1	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. identify the water inlet valve in the household plumbing	1	1	-	-
PC14. ensure that the valve is turned off while connecting the PVC hose water inlet of the washing machine to the valve	-	1	-	-
PC15. connect the waste water outlet from the washing machine to the waste system such that the dirty water does not get siphoned back into the washing machine	1	1	-	1
PC16. perform steps to make inlet, outlet and power supply connections securely using the correct tools and equipment for installation	1	3	-	1
PC17. operate and check that there are no leaks and the machine is in a safe and stable condition	1	1	-	-
PC18. educate the customer about switching off the unit during voltage fluctuations and use of voltage regulators, if necessary	1	-	-	-
PC19. provide information to the customer on proper operation and maintenance procedures	2	-	-	-
<i>Diagnose, repair and replace the faulty module of appliance</i>	9	14	-	5
PC20. diagnose the fault based on customer interaction, usage pattern and initial inspection	1	1	-	1
PC21. unplug the appliance to carry out further inspection	1	1	-	-
PC22. perform basic tests such as power supply inspection, volt ampere test and earth test power supply	1	3	-	1
PC23. inspect every module of the unit separately if the fault is not identified through basic tests	1	3	-	1
PC24. send it to factory for in-depth diagnosis if problem does not get identified at site	1	-	-	-
PC25. repair/replace component at location, if the fault identified is due to damage of components	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. schedule next appointment if the part can't be replaced on site	1	-	-	-
PC27. reassemble the unit to check that all the modules of the unit are working as per specifications	1	2	-	1
PC28. demonstrate functionality of the unit to the customer	-	2	-	1
PC29. provide information to the customer about cleaning procedures and precautions to be taken in order to avoid recurrence of problem	1	-	-	-
<i>Complete documentation</i>	4	7	-	-
PC30. fill in customer acknowledgement form and get it signed by customer, both in case of installation and repair	1	2	-	-
PC31. document the work completed on the company ERP software for tracking and inform customer care as well as supervisor about job completion	1	3	-	-
PC32. complete all documentation procedures for complaint closure	1	2	-	-
PC33. collect necessary payments from the customer and issue invoice accordingly	1	-	-	-
<i>Coordinate with others w.r.t. installation and repair</i>	6	10	-	2
PC34. escalate customer issues and problems that are unresolved at field level, including queries on non-field service areas	2	2	-	-
PC35. interact with service technicians from time to time in order to understand problems faced on the field	2	4	-	1
PC36. provide training to junior level technicians about installation procedures, diagnosis procedures and customer handling	2	4	-	1
NOS Total	40	50	-	10



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N3116
NOS Name	Perform installation and repair of washing machine
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	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

ELE/N1002: Apply health and safety practices at the workplace

Description

This OS unit is about knowledge and practices relating to health, safety and security that candidates need to use in the workplace.

Scope

The scope covers the following :

- Deal with workplace hazards
- Apply fire safety practices
- Follow emergencies, rescue and first-aid procedures
- Effective waste management/recycling practices

Elements and Performance Criteria

Deal with workplace hazards

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

- PC1.** identify job-site hazards and possible causes of accident in the workplace
- PC2.** perform work complying to organizational safe working practices and observing hazard signs displayed on containers, equipment and in various work areas such as inside buildings, in open areas and public spaces, etc.
- PC3.** use appropriate personal protective equipment (PPE) for specific tasks and work conditions, contaminant (concentration w.r.t air) requirements and severity of hazard while conforming to the Indian/International standards
- PC4.** follow standard safety procedures while handling tool/ ,equipment, hazardous substances and while working in hazardous environments
- PC5.** dispose electronic waste (such as toxins; metals such as lead, cadmium, barium; flame retardant plastics, welding slag etc.) as per industry approved techniques
- PC6.** avoid damage of components due to negligence in electrostatic discharge (ESD) procedures
- PC7.** locate general health and safety equipment in the workplace such as fire extinguishers; first aid equipment; safety instruments, clothing and installations (fire exits, exhaust fans)
- PC8.** maintain appropriate posture while handling heavy objects
- PC9.** apply good housekeeping practices at all times

Apply fire safety practices

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

- PC10.** take preventive measures to prevent fire hazards
- PC11.**
 - use appropriate fire extinguishers for different types of fires
 - Types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: e.g. electrical equipment such as appliances, wiring, breaker panels, etc. (These categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no l
- PC12.** exhibit rescue and first-aid techniques in case of fire or electrocution

Qualification Pack

Follow emergencies, rescue and first-aid procedures

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

- PC13.** administer appropriate first aid to victims in case of bleeding, burns, choking, electric shock, poisoning etc.
- PC14.** administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock,
- PC15.** participate regularly in emergency procedures such as raising alarm, safe/efficient, evacuation, correct means of taking shelter and escaping, correct assembly point, roll call, correct return to work
- PC16.** use correct method to move injured people and others during an emergency

Effective waste management/recycling practices

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

- PC17.** identify recyclable and non-recyclable, and hazardous waste generated
- PC18.** segregate waste into different categories
- PC19.** ensure disposal of non-recyclable waste appropriately
- PC20.** deposit non-recyclable and reusable material at identified location
- PC21.** follow processes specified for disposal of hazardous waste

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** importance of working in clean and safe work environment following safety practices and procedures
- KU2.** health and safety roles and responsibilities of relevant personnel within and outside the organisation
- KU3.** key internal and external sources of health and safety information
- KU4.** basic knowledge of electronic devices and related health risks
- KU5.** meaning of hazards and risks
- KU6.** various types of health and safety hazards commonly present in the work environment such as physical hazards, electrical hazards, chemical hazards, fire hazards, equipment related hazards, health hazards, etc.
- KU7.** methods of accident prevention
- KU8.** importance of using protective clothing/equipment while working
- KU9.** general principles for identifying and controlling health and safety risks
- KU10.** main hazards and preventive as well as control measures while working with different types of equipment
- KU11.** importance of carrying out electrical and non-electrical isolation to prevent hazards from loss of machine/system/process control
- KU12.** main hazards and preventive as well as control measures when working with electrical systems or using electrical equipment
- KU13.** forms and classifications of hazardous substances
- KU14.** safe working practices while working at various hazardous sites
- KU15.** prevention and control measures to reduce risks from exposure to hazardous substances

Qualification Pack

- KU16.** health effects associated with exposure to noise and vibration and the appropriate control measures
- KU17.** precautionary activities to prevent the fire accident
- KU18.** various causes of fire such as heating of metal, spontaneous ignition, sparking, electrical eating, loose fires (smoking, welding, etc.) chemical fires etc.
- KU19.** techniques of using the different fire extinguishers
- KU20.** different methods and material to extinguish fires
- KU21.** different materials used for extinguishing fire such as sand, water, foam, CO₂, dry powder
- KU22.** rescue techniques used during a fire hazard
- KU23.** various types of safety signs and their meaning
- KU24.** basic first aid treatment relevant to the common work place injuries e.g. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries
- KU25.** contents of written accident report
- KU26.** potential injuries and ill health associated with incorrect handling of tools and equipment
- KU27.** safe lifting and carrying practices
- KU28.** potential impact to a person who is moved incorrectly
- KU29.** personal safety, health and dignity issues relating to the movement of a person by others
- KU30.** ESD measures and 5S
- KU31.** efficient utilization and management of material and water
- KU32.** ways to recognize common electrical problems and practices of conserving electricity
- KU33.** usage of different colours of dustbins, categorization of waste into dry, wet, recyclable, nonrecyclable and items of single-use plastics
- KU34.** organization's procedure for minimizing waste
- KU35.** waste management and methods of waste disposal
- KU36.** common sources of pollution and ways to minimize it
- KU37.** names, contact information and location of people responsible for health and safety in the workplace
- KU38.** location of documents and equipment for health and safety compliance/practices in the workplace
- KU39.** safety notices, signs and instructions at workplace

Generic Skills (GS)

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

- GS1.** interpret general health and safety guidelines labels, charts, signages
- GS2.** read operation manuals
- GS3.** write health and safety compliance report
- GS4.** write an accident/incident report in local language or English
- GS5.** provide an emergency or safety incident brief to seniors or relevant authorities in a calm, clear and to-the-point manner
- GS6.** communicate general health and safety guidelines to colleagues/co-workers



Qualification Pack

- GS7.** communicate appropriately with co-workers in order to clarify instructions and other issues
- GS8.** act in case of any potential hazards observed in the work place
- GS9.** plan and organize their own work schedule, work area, tools, equipment in compliance with organizational policies for health, safety and security
- GS10.** take adequate measures to ensure the safety of clients and visitors at the workplace
- GS11.** identify immediate or temporary solutions to resolve delays
- GS12.** evaluate the work area for health and safety risks or hazards
- GS13.** use cause and effect relations to anticipate potential issues, problems and their solution in the work area related to safety
- GS14.** recognise emergency and potential emergency situations
- GS15.** protect self and others from a health and safety risk or hazard
- GS16.** communicate and collaborate to incorporate sustainable practices (greening) in workplace processes
- GS17.** record data on waste disposal at workplace

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Deal with workplace hazards</i>	20	31	-	-
PC1. identify job-site hazards and possible causes of accident in the workplace	2	3	-	-
PC2. perform work complying to organizational safe working practices and observing hazard signs displayed on containers, equipment and in various work areas such as inside buildings, in open areas and public spaces, etc.	3	4	-	-
PC3. use appropriate personal protective equipment (PPE) for specific tasks and work conditions, contaminant (concentration w.r.t air) requirements and severity of hazard while conforming to the Indian/International standards	3	4	-	-
PC4. follow standard safety procedures while handling tool/ ,equipment, hazardous substances and while working in hazardous environments	3	4	-	-
PC5. dispose electronic waste (such as toxins; metals such as lead, cadmium, barium; flame retardant plastics, welding slag etc.) as per industry approved techniques	2	4	-	-
PC6. avoid damage of components due to negligence in electrostatic discharge (ESD) procedures	2	3	-	-
PC7. locate general health and safety equipment in the workplace such as fire extinguishers; first aid equipment; safety instruments, clothing and installations (fire exits, exhaust fans)	2	3	-	-
PC8. maintain appropriate posture while handling heavy objects	1	3	-	-
PC9. apply good housekeeping practices at all times	2	3	-	-
<i>Apply fire safety practices</i>	4	9	-	-
PC10. take preventive measures to prevent fire hazards	2	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. <ul style="list-style-type: none"> use appropriate fire extinguishers for different types of fires Types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: e.g. electrical equipment such as appliances, wiring, breaker panels, etc. (These categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no l 	1	3	-	-
PC12. exhibit rescue and first-aid techniques in case of fire or electrocution	1	3	-	-
<i>Follow emergencies, rescue and first-aid procedures</i>	6	13	-	-
PC13. administer appropriate first aid to victims in case of bleeding, burns, choking, electric shock, poisoning etc.	1	3	-	-
PC14. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock,	1	2	-	-
PC15. participate regularly in emergency procedures such as raising alarm, safe/efficient, evacuation, correct means of taking shelter and escaping, correct assembly point, roll call, correct return to work	2	4	-	-
PC16. use correct method to move injured people and others during an emergency	2	4	-	-
<i>Effective waste management/recycling practices</i>	5	12	-	-
PC17. identify recyclable and non-recyclable, and hazardous waste generated	1	3	-	-
PC18. segregate waste into different categories	1	2	-	-
PC19. ensure disposal of non-recyclable waste appropriately	1	2	-	-
PC20. deposit non-recyclable and reusable material at identified location	1	3	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. follow processes specified for disposal of hazardous waste	1	2	-	-
NOS Total	35	65	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N1002
NOS Name	Apply health and safety practices at the workplace
Sector	Electronics
Sub-Sector	Generic
Occupation	Generic - Health Safety
NSQF Level	4
Credits	TBD
Version	3.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022



Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

Constitutional values - Citizenship

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

- 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

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

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour 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

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

Qualification Pack

- 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

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

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

- 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

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

- 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

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

- 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

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

- 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

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

- 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

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

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

Qualification Pack

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

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. Twenty first (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



Qualification Pack

- 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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
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	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour 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	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
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	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
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	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
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	-	-	-	-
<i>Customer Service</i>	1	2	-	-
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	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
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	-	-	-	-
NOS Total	20	30	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	28/07/2022
Next Review Date	28/07/2025
NSQC Clearance Date	28/07/2022

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.



Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ELE/N3101.Engage with customer for service	40	50	-	10	100	20
ELE/N3112.Perform installation and repair of refrigerator	40	50	-	10	100	20
ELE/N3114.Perform installation and repair of air conditioners	40	50	-	10	100	20
ELE/N3116.Perform installation and repair of washing machine	40	50	-	10	100	20
ELE/N1002.Apply health and safety practices at the workplace	35	65	-	-	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	215	295	-	40	550	100



Qualification Pack

Acronyms

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

Qualification Pack

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.

Qualification Pack

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.