

## Qualification Pack



# Assembly Operator-TV

QP Code: ELE/Q3502

Version: 3.0

NSQF Level: 4

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

### Contents

ELE/Q3502: Assembly Operator-TV .....	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/N3508: Assemble CRT TV .....	5
ELE/N3509: Assemble Flat Panel Display TV .....	11
ELE/N1002: Apply health and safety practices at the workplace .....	17
DGT/VSQ/N0102: Employability Skills (60 Hours) .....	25
Assessment Guidelines and Weightage .....	32
<i>Assessment Guidelines</i> .....	32
<i>Assessment Weightage</i> .....	33
Acronyms .....	34
Glossary .....	35



## Qualification Pack

### ELE/Q3502: Assembly Operator-TV

#### Brief Job Description

The individual at work is responsible for fitting in the different modules of the television set into the frame using appropriate screws and connectors during the different stages of the assembly process. The individual is expected to minimise errors at every stage since the assembly line is continuously in motion

#### Personal Attributes

The individual works in high-decibel noise environment and works in standing position for long hours.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [ELE/N3508: Assemble CRT TV](#)
2. [ELE/N3509: Assemble Flat Panel Display TV](#)
3. [ELE/N1002: Apply health and safety practices at the workplace](#)
4. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Electronics Manufacturing System
<b>Occupation</b>	Assembly-EMS
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	20
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/8212.1401

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<b>Minimum Educational Qualification &amp; Experience</b>	8th grade pass with 2 years of NTC (plus 2 year of NAC/relevant experience) OR 10th grade pass (plus 2 year of NTC/NAC/relevant experience) OR 12th Class OR Certificate-NSQF (level 3 in Maintenance Technician) with 2 Years of experience
<b>Minimum Level of Education for Training in School</b>	8th Class
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	24/06/2025
<b>NSQC Approval Date</b>	24/02/2022
<b>Version</b>	3.0
<b>Reference code on NQR</b>	2022/EHW/ESSC/06638
<b>NQR Version</b>	1.0

#### Remarks:

NA

## Qualification Pack

### ELE/N3508: Assemble CRT TV

#### Description

This OS unit is about assembling different modules and sub systems to manufacture a CRT TV

#### Elements and Performance Criteria

##### *Understanding work requirements*

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

- PC1.** interact with the supervisor in order to understand the days production requirement
- PC2.** plan the days production activities based on the feedback obtained from superior
- PC3.** use appropriate drawings, job instructions or work manuals

##### *Assembling CRT TV set*

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

- PC4.** attach the speaker to the front cabinet of the television
- PC5.** connect the auxiliary/speaker PCB to the system
- PC6.** fit the colour picture tube on to the assembled sub system
- PC7.** wire the degaussing coil and the earth connection to the assembled system
- PC8.** connect the main PCB to this assembly
- PC9.** make adjustments such as white balance adjustment, audio video tests, etc
- PC10.** attach the back cover and pass the sub system on for packaging
- PC11.** interpret accurately the drawings, wiring and job specifications/instructions
- PC12.** ensure that consumables and components are available in usable condition
- PC13.** ensure that the finished assembly meets the required specifications
- PC14.** inspect aesthetics of front cabinet

##### *Reporting to supervisor*

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

- PC15.** highlight any errors in previous step of the assembly process identified
- PC16.** report defective or inadequate number of components
- PC17.** report about inadequate quantity of consumables such as screws, nuts, etc

##### *Achieving productivity, quality and safety standards*

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

- PC18.** meet 100% target for number of products to be manufactured per day
- PC19.** achieve 100% of planned work as scheduled
- PC20.** achieve zero errors as per company standards
- PC21.** achieve zero damage because of electrostatic discharge
- PC22.** keep work area clean and organised identify
- PC23.** report any problems in the assembly line in time
- PC24.** record any defects/inadequacies noted during the assembly process
- PC25.** ensure labelling of product is done as per guidelines

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**PC26.** maintain safety standards as per company policy

**PC27.** achieve clean work protocols

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: incentives, delivery standards and personnel management
- KU2.** reporting and documentation processes
- KU3.** importance of the individuals role in the workflow
- KU4.** reporting structure
- KU5.** mechanical assembly instructions
- KU6.** general principles of wiring and assembly, methods used and purpose of each
- KU7.** circuit knowledge, block diagram of CRT TV and functioning of its different modules
- KU8.** fundamentals of electricity such as Ohms law, difference between Ac and DC, series and parallel connections
- KU9.** basic electronics of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermister
- KU10.** how to read values of resistors, capacitors, diodes and integrated circuits with specific reference to colour coding, polarity, orientation, tolerance
- KU11.** specific safety precautions that need to be taken while working in an electronic assembly unit
- KU12.** personal protective equipment/gear such as gloves, rubber base shoes etc. to be worn while carrying out wiring activities
- KU13.** selection and maintenance of various tools used during the assembly process
- KU14.** television receiver fundamentals and CRT basics
- KU15.** frequently occurring errors in the assembly process, causes and preventive measure

### Generic Skills (GS)

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

- GS1.** read warnings, instructions and other text material on product labels, components, etc
- GS2.** read job sheets or work orders
- GS3.** use computers for documenting
- GS4.** complete forms such as work orders, invoices, maintenance records
- GS5.** operate/use screw driver, ratchets, spring driver, speciality wrenches, inspection fixtures, wire cutter, pliers, tester, spanner, CRO, multi meter
- GS6.** use tools safely
- GS7.** pattern generation, colour analyser, multi-meter, etc..
- GS8.** assemble electron guns, focussing and deflection coils, anode connections and phosphor layering
- GS9.** achieve the required picture quality and overall quality standards



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- GS10.** supervisor and co-workers to achieve smooth workflow
- GS11.** superior and co-workers to share knowledge and learning

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understanding work requirements</i>	<b>6</b>	<b>9</b>	-	-
<b>PC1.</b> interact with the supervisor in order to understand the days production requirement	2	3	-	-
<b>PC2.</b> plan the days production activities based on the feedback obtained from superior	2	3	-	-
<b>PC3.</b> use appropriate drawings, job instructions or work manuals	2	3	-	-
<i>Assembling CRT TV set</i>	<b>22</b>	<b>33</b>	-	-
<b>PC4.</b> attach the speaker to the front cabinet of the television	2	3	-	-
<b>PC5.</b> connect the auxiliary/speaker PCB to the system	2	3	-	-
<b>PC6.</b> fit the colour picture tube on to the assembled sub system	2	3	-	-
<b>PC7.</b> wire the degaussing coil and the earth connection to the assembled system	2	3	-	-
<b>PC8.</b> connect the main PCB to this assembly	2	3	-	-
<b>PC9.</b> make adjustments such as white balance adjustment, audio video tests, etc	2	3	-	-
<b>PC10.</b> attach the back cover and pass the sub system on for packaging	2	3	-	-
<b>PC11.</b> interpret accurately the drawings, wiring and job specifications/instructions	2	3	-	-
<b>PC12.</b> ensure that consumables and components are available in usable condition	2	3	-	-
<b>PC13.</b> ensure that the finished assembly meets the required specifications	2	3	-	-
<b>PC14.</b> inspect aesthetics of front cabinet	2	3	-	-
<i>Reporting to supervisor</i>	<b>5</b>	<b>7</b>	-	-



### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC15.</b> highlight any errors in previous step of the assembly process identified	2	3	-	-
<b>PC16.</b> report defective or inadequate number of components	2	3	-	-
<b>PC17.</b> report about inadequate quantity of consumables such as screws, nuts, etc	1	1	-	-
<i>Achieving productivity, quality and safety standards</i>	<b>7</b>	<b>11</b>	-	-
<b>PC18.</b> meet 100% target for number of products to be manufactured per day	-	2	-	-
<b>PC19.</b> achieve 100% of planned work as scheduled	1	1	-	-
<b>PC20.</b> achieve zero errors as per companys standards	1	1	-	-
<b>PC21.</b> achieve zero damager because of electrostatic discharge	1	1	-	-
<b>PC22.</b> keep work area clean and organised identify	1	1	-	-
<b>PC23.</b> report any problems in the assembly line in time	1	1	-	-
<b>PC24.</b> record any defects/inadequacies noted during the assembly process	1	1	-	-
<b>PC25.</b> ensure labelling of product is done as per guidelines	1	1	-	-
<b>PC26.</b> maintain safety standards as per company policy	-	1	-	-
<b>PC27.</b> achieve clean work protocols	-	1	-	-
<b>NOS Total</b>	<b>40</b>	<b>60</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ELE/N3508
<b>NOS Name</b>	Assemble CRT TV
<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Consumer Electronics & IT Hardware
<b>Occupation</b>	Manufacturing
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/06/2025
<b>NSQC Clearance Date</b>	24/02/2022



## Qualification Pack

### ELE/N3509: Assemble Flat Panel Display TV

#### Description

This OS unit is assembling the different modules of a Flat Panel Display (FPD) TV to manufacture the final product

#### Elements and Performance Criteria

##### *Understanding work requirements*

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

- PC1.** interact with the supervisor in order to understand the days production requirement
- PC2.** plan the days production activities based on the feedback obtained
- PC3.** use appropriate drawings, job instructions or work manuals
- PC4.** check availability of components and modules required for completing the assembly

##### *Assembling the LCD/LED TV*

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

- PC5.** fix by inserting necessary screws into the chassis before placing the back light screen
- PC6.** place the back light screen on the chassis
- PC7.** assemble the main PCB, the power supply board and the LED driver to form the mother board
- PC8.** connect the speaker to the mother board
- PC9.** connect the electronic sub assembly to the already assembled sub system
- PC10.** place the front screen on the frame and attach the same to the sub assembly
- PC11.** ensure that the finished assembly meets the required specification
- PC12.** select right tools for securing fastenings, assembling sub units, connectors and allied devices
- PC13.** inspect aesthetics of front cabinet
- PC14.** Inspect back light screen for aesthetics before fixing

##### *Reporting to supervisor*

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

- PC15.** highlight any errors in previous step of the assembly process
- PC16.** report defective or inadequate number of components
- PC17.** report in time about inadequate quantity of consumables such as screws, nuts, etc.

##### *Achieving productivity, quality and safety standards*

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

- PC18.** achieve 100% work planned for the day as per schedule
- PC19.** meet the target number of products to be manufactured per day
- PC20.** achieve zero errors in assembly as per company policy
- PC21.** use grounded wrist straps and other electrostatic precautions as applicable
- PC22.** keep work area clean and organised identify and report any problems in the assembly line in time
- PC23.** record any defects/inadequacies noted during the assembly process

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**PC24.** complete work without hazards

**PC25.** follow clean work protocols

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: incentives, delivery standards and personnel management and Intellectual Property Rights (IPR)
- KU2.** reporting and documentation processes
- KU3.** importance of the individuals role in the workflow
- KU4.** reporting structure
- KU5.** mechanical assembly instructions
- KU6.** general principles of wiring and assembly, methods used and purpose of each
- KU7.** circuit knowledge, block diagram of CRT TV and functioning of its different modules
- KU8.** how to read values of resistors, capacitors, diodes and integrated circuits with specific reference to colour coding, polarity, orientation, tolerance
- KU9.** fundamentals of electricity such as Ohms law, difference between AC and DC, series and parallel connections
- KU10.** basic electronics of components such as diode, transformer, LED, photo transistor, capacitor, resistor, inductor, thermister
- KU11.** specific safety precautions that need to be taken while working in an electronic assembly unit
- KU12.** personal protective equipment/gear such as gloves, rubber base shoes etc. to be worn while carrying out wiring activities
- KU13.** frequently occurring errors in the assembly process, causes and preventive measures
- KU14.** problems that can occur during assembly and how they can be avoided
- KU15.** electrical and electronic symbols, multiples and SI units
- KU16.** continuous improvement processes (Kaizen) and 5S

### Generic Skills (GS)

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

- GS1.** read warnings, instructions and other text material on product labels, components, etc
- GS2.** read job sheets, work orders and instructions manual
- GS3.** read technical schematics in order to carry out assembling operation
- GS4.** comprehend signs, labels, warnings
- GS5.** complete forms such as work orders, maintenance records, etc
- GS6.** complete documentation post assembly
- GS7.** how to operate/use screw driver, ratchets, spring driver, speciality wrenches, inspection fixtures, wire cutter, pliers, tester, spanner, CRO, multi meter, ESD gloves, apron and straps
- GS8.** how to use tools safely and arrange them in a place for easy access



## Qualification Pack

- GS9.** assemble how modules such as tuner, power supply, main board, audio system, display driver and LCD module
- GS10.** bring in precision and quality of workmanship in the product
- GS11.** supervisor and co-workers to achieve smooth workflow
- GS12.** superior and co-workers to share knowledge and learning

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understanding work requirements</i>	<b>8</b>	<b>8</b>	-	-
<b>PC1.</b> interact with the supervisor in order to understand the days production requirement	2	2	-	-
<b>PC2.</b> plan the days production activities based on the feedback obtained	2	2	-	-
<b>PC3.</b> use appropriate drawings, job instructions or work manuals	2	2	-	-
<b>PC4.</b> check availability of components and modules required for completing the assembly	2	2	-	-
<i>Assembling the LCD/LED TV</i>	<b>22</b>	<b>38</b>	-	-
<b>PC5.</b> fix by inserting necessary screws into the chassis before placing the back light screen	2	4	-	-
<b>PC6.</b> place the back light screen on the chassis	2	4	-	-
<b>PC7.</b> assemble the main PCB, the power supply board and the LED driver to form the mother board	3	4	-	-
<b>PC8.</b> connect the speaker to the mother board	2	3	-	-
<b>PC9.</b> connect the electronic sub assembly to the already assembled sub system	2	3	-	-
<b>PC10.</b> place the front screen on the frame and attach the same to the sub assembly	3	4	-	-
<b>PC11.</b> ensure that the finished assembly meets the required specification	2	4	-	-
<b>PC12.</b> select right tools for securing fastenings, assembling sub units, connectors and allied devices	2	4	-	-
<b>PC13.</b> inspect aesthetics of front cabinet	2	4	-	-
<b>PC14.</b> Inspect back light screen for aesthetics before fixing	2	4	-	-
<i>Reporting to supervisor</i>	<b>4</b>	<b>6</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC15.</b> highlight any errors in previous step of the assembly process	2	4	-	-
<b>PC16.</b> report defective or inadequate number of components	1	1	-	-
<b>PC17.</b> report in time about inadequate quantity of consumables such as screws, nuts, etc.	1	1	-	-
<i>Achieving productivity, quality and safety standards</i>	<b>6</b>	<b>8</b>	-	-
<b>PC18.</b> achieve 100% work planned for the day as per schedule	1	1	-	-
<b>PC19.</b> meet the target number of products to be manufactured per day	1	1	-	-
<b>PC20.</b> achieve zero errors in assembly as per company policy	1	1	-	-
<b>PC21.</b> use grounded wrist straps and other electrostatic precautions as applicable	1	1	-	-
<b>PC22.</b> keep work area clean and organised identify and report any problems in the assembly line in time	1	1	-	-
<b>PC23.</b> record any defects/inadequacies noted during the assembly process	1	1	-	-
<b>PC24.</b> complete work without hazards	-	1	-	-
<b>PC25.</b> follow clean work protocols	-	1	-	-
<b>NOS Total</b>	<b>40</b>	<b>60</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ELE/N3509
<b>NOS Name</b>	Assemble Flat Panel Display TV
<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Consumer Electronics & IT Hardware
<b>Occupation</b>	Manufacturing
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/06/2025
<b>NSQC Clearance Date</b>	24/02/2022



## 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

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### *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, CO<sub>2</sub>, 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>	<b>20</b>	<b>31</b>	-	-
<b>PC1.</b> identify job-site hazards and possible causes of accident in the workplace	2	3	-	-
<b>PC2.</b> 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	-	-
<b>PC3.</b> 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	-	-
<b>PC4.</b> follow standard safety procedures while handling tool/ ,equipment, hazardous substances and while working in hazardous environments	3	4	-	-
<b>PC5.</b> 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	-	-
<b>PC6.</b> avoid damage of components due to negligence in electrostatic discharge (ESD) procedures	2	3	-	-
<b>PC7.</b> 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	-	-
<b>PC8.</b> maintain appropriate posture while handling heavy objects	1	3	-	-
<b>PC9.</b> apply good housekeeping practices at all times	2	3	-	-
<i>Apply fire safety practices</i>	<b>4</b>	<b>9</b>	-	-
<b>PC10.</b> take preventive measures to prevent fire hazards	2	3	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<p><b>PC11.</b></p> <ul style="list-style-type: none"> <li>• use appropriate fire extinguishers for different types of fires</li> <li>• 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</li> </ul>	1	3	-	-
<p><b>PC12.</b> exhibit rescue and first-aid techniques in case of fire or electrocution</p>	1	3	-	-
<p><i>Follow emergencies, rescue and first-aid procedures</i></p>	<b>6</b>	<b>13</b>	-	-
<p><b>PC13.</b> administer appropriate first aid to victims in case of bleeding, burns, choking, electric shock, poisoning etc.</p>	1	3	-	-
<p><b>PC14.</b> administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock,</p>	1	2	-	-
<p><b>PC15.</b> 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</p>	2	4	-	-
<p><b>PC16.</b> use correct method to move injured people and others during an emergency</p>	2	4	-	-
<p><i>Effective waste management/recycling practices</i></p>	<b>5</b>	<b>12</b>	-	-
<p><b>PC17.</b> identify recyclable and non-recyclable, and hazardous waste generated</p>	1	3	-	-
<p><b>PC18.</b> segregate waste into different categories</p>	1	2	-	-
<p><b>PC19.</b> ensure disposal of non-recyclable waste appropriately</p>	1	2	-	-
<p><b>PC20.</b> deposit non-recyclable and reusable material at identified location</p>	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	-	-
<b>NOS Total</b>	<b>35</b>	<b>65</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ELE/N1002
<b>NOS Name</b>	Apply health and safety practices at the workplace
<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic - Health Safety
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	30/12/2026
<b>NSQC Clearance Date</b>	30/12/2021





## 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>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> 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.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ 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 center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
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/N3508.Assemble CRT TV	40	60	-	-	100	35
ELE/N3509.Assemble Flat Panel Display TV	40	60	-	-	100	35
ELE/N1002.Apply health and safety practices at the workplace	35	65	-	-	100	20
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>135</b>	<b>215</b>	<b>-</b>	<b>-</b>	<b>350</b>	<b>100</b>



## Qualification Pack

### Acronyms

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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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

<b>Knowledge and Understanding (KU)</b>	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.
<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.