Qualification Pack

Assembly Line Operator

QP Code: ELE/Q4301

Version: 3.0

NSQF Level: 3

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Contents

Qualification Pack

ELE/Q4301: Assembly Line Operator

Brief Job Description

The individual at work is responsible for assembling the different modules in the IT hardware to complete the product. The individual receives different electronic and electromechanical modules, fits and assembles them together. The operator may assemble multiple modules and/or products by following operating procedures for different models.

Personal Attributes

The job requires the individual to work in a sitting or standing position for long hours on the assembly line. The individual must be able to handle tools and equipment with precision and safely

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ELE/N4301: Perform kitting of modules for assembling
2. ELE/N4302: Assemble modules to complete equipment
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely
5. DGT/VSQ/N0101: Employability Skills (30 Hours)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	Electronics Manufacturing System
Occupation	Assembly-EMS
Country	India
NSQF Level	3
Credits	15
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7242.10

Qualification Pack

Minimum Educational Qualification & Experience	8th grade pass (plus 2 year of NTC/relevant experience) OR 10th grade pass
Minimum Level of Education for Training in School	8th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	24/06/2025
NSQC Approval Date	24/02/2022
Version	3.0
Reference code on NQR	2022/EHW/ESSC/06640
NQR Version	1.0

Remarks:

NA

ELE/N4301: Perform kitting of modules for assembling

Description

This OS unit is about receiving the components, modules, accessories and PCBs, and arranging for ease of assembling the product

Elements and Performance Criteria

Understanding work requirement

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

PC1. the daily targets on number of assemblies to be made

PC2. the product and model for which the day work is assigned to

PC3. the components and modules according to the bill of materials (BOM)

Receiving the components and modules

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

PC4. receive the electrical and electronic components

PC5. receive the connectors, wires, cables and modules

PC6. receive other accessories such as labels, cabinet, machine traveller sheet, etc., used in assembling process

PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards

PC8. document the number of components and modules received from the stores and take sign off from stores department

PC9. enter the inventory details in the internal process system as per company requirement example: SAP (ERP system)

PC10. accurately read the bill of materials for the product

PC11. maintain accurate documentation on the module and components received

Assembling the component

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

PC12. fix appropriately the components in the right slots without any error

PC13. handle the components appropriately without any damage

PC14. use and handle specific precision tools to mount the components / module without physical damage

PC15. document all the components fixed in the standard procedure

Kitting the components and modules

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

PC16. understand all the modules required for assembling such as metal case for boxing, power supply, mother boards , other PCBs, displays, drivers, power supply, controllers, trays, fusers

PC17. segregate the components, modules, box and accessories

PC18. put them in different bins for assembling of an entire unit

PC19. understand any specific instruction that need to be followed for assembling as per operating manual and circuit diagram or kitting sheet

PC20. check for any possible mix up between different kitting requirements
PC21. understand the handling procedure of different components and modules
PC22. take anti static precautions before work and wear ESD wrist straps or aprons
PC23. ensure that the number of modules or accessories are appropriately stocked
PC24. record all the components and modules in the machine traveller sheet for tracking
PC25. correctly identify all the modules and place them appropriately
PC26. understand and arrange accurate number of modules and accessories required for one product
PC27. avoid any mismatch and wrong count of modules during kitting

Assembling components

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

PC28. fix the processor appropriately on the sockets
PC29. fix the RAM on in the sockets in motherboard
PC30. fix other necessary modules such as video cards in their respective slots on the motherboard
PC31. mount the cooling fan above the processor as per standard operating procedure (use thermal paste if required)
PC32. assemble print head, components such as wire house, armature, bobbin
PC33. stick necessary labels in appropriate places such as stickers of OEM, Manufacturer brand, product labels and product identification serial number labels
PC34. use specified precision tools for assembling the components in the module
PC35. document the process on machine traveller sheet after completion of each work for inspection
PC36. enter the completed work in companys internal system
PC37. effectively use appropriate tools to address specific issues
PC38. follow standard safety procedures in handling hazardous tools
PC39. maintain the tools appropriately to reduce damage or repair
PC40. maintain zero-material defect during material handling by following standard operating procedure

Interacting with superior

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

PC41. understand the work requirement from superior, periodically
PC42. report to superior on the work completed
PC43. seek assistance from superior on specific module assembling and handling
PC44. escalate the issues and problems that cannot be handled
PC45. document the work completed on the company ERP software for tracking and future references
PC46. achieve 100% on time completion of kitting as per productivity and assembling target
PC47. carry out daily schedule as per instructions
PC48. find technical solutions on specific issues
PC49. report work status and prepare required documentation as per company standards

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. companys sales and after sales support policy
KU3. importance of individuals role in the work flow
KU4. reporting structure
KU5. companys policy on products warranty and other terms and conditions
KU6. companys line of business and product portfolio
KU7. basic electronics involved in the hardware
KU8. different types of IT hardware products and functionalities
KU9. functions of electrical and mechanical parts/ modules
KU10. identify different components in the module
KU11. the specific function of different modules for a equipment
KU12. the different models assembled in the plant and their requirement
KU13. handling specific expensive modules such as processors, hard disks
KU14. voltage and power requirement for different hardware devices
KU15. memory, input, output and storage devices
KU16. different modules in hardware equipment for example SMPS, drivers, hard disk, battery, mother board in case of a desktop
KU17. use of tools such as electronic screwdrivers, needle-nose pliers, etc
KU18. Electrostatic Discharge (ESD) and precautionary steps
KU19. achieve outputs required from the system and other hardware peripherals
KU20. achieve required quality standards

Generic Skills (GS)

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

GS1. read job sheet and document the completed work on material movement note
GS2. read the component requirement and identification of slots for any equipment
GS3. read assembling procedures for different models
GS4. share work load as required
GS5. achieve the targets given on assembling of equipment
GS6. basics of different types of IT hardware equipment such as Desktop, Laptop, Printer, Scanner, Networking device, servers, EPABX
GS7. identify all the components and modules in the equipment they are
GS8. component requirement for modules for specific equipment
GS9. operate computer and laptop and peripheral hardware
GS10. operate the different software
GS11. operate the internal ERP software to record material movement, completion of work, raise for spares
GS12. to use electronic screw drivers for assembling and disassembling of modules

GS13. to use specific handling tools such as needle nose-pliers
GS14. to improve work processes
GS15. to reduce repetition of errors
GS16. to spot process disruptions and delays
GS17. to report on any concerns to superiors without delay

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Understanding work requirement	**-**	**4**	**-**	**-**
PC1. the daily targets on number of assemblies to be made	-	2	-	-
PC2. the product and model for which the day work is assigned to	-	1	-	-
PC3. the components and modules according to the bill of materials (BOM)	-	1	-	-
Receiving the components and modules	**7**	**9**	**-**	**-**
PC4. receive the electrical and electronic components	1	1	-	-
PC5. receive the connectors, wires, cables and modules	1	1	-	-
PC6. receive other accessories such as labels, cabinet, machine traveller sheet, etc., used in assembling process	1	1	-	-
PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards	1	1	-	-
PC8. document the number of components and modules received from the stores and take sign off from stores department	1	1	-	-
PC9. enter the inventory details in the internal process system as per company requirement example: SAP (ERP system)	1	1	-	-
PC10. accurately read the bill of materials for the product	-	2	-	-
PC11. maintain accurate documentation on the module and components received	1	1	-	-
Assembling the component	**3**	**8**	**-**	**-**
PC12. fix appropriately the components in the right slots without any error	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. handle the components appropriately without any damage	-	2	-	-
PC14. use and handle specific precision tools to mount the components / module without physical damage	1	2	-	-
PC15. document all the components fixed in the standard procedure	1	2	-	-
Kitting the components and modules	**12**	**15**	**-**	**-**
PC16. understand all the modules required for assembling such as metal case for boxing, power supply, mother boards , other PCBs, displays, drivers, power supply, controllers, trays, fusers	1	2	-	-
PC17. segregate the components, modules, box and accessories	1	2	-	-
PC18. put them in different bins for assembling of an entire unit	1	2	-	-
PC19. understand any specific instruction that need to be followed for assembling as per operating manual and circuit diagram or kitting sheet	1	1	-	-
PC20. check for any possible mix up between different kitting requirements	1	1	-	-
PC21. understand the handling procedure of different components and modules	1	1	-	-
PC22. take anti static precautions before work and wear ESD wrist straps or aprons	1	1	-	-
PC23. ensure that the number of modules or accessories are appropriately stocked	1	1	-	-
PC24. record all the components and modules in the machine traveller sheet for tracking	1	1	-	-
PC25. correctly identify all the modules and place them appropriately	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. understand and arrange accurate number of modules and accessories required for one product	1	1	-	-
PC27. avoid any mismatch and wrong count of modules during kitting	1	1	-	-
Assembling components	**13**	**14**	**-**	**-**
PC28. fix the processor appropriately on the sockets	1	1	-	-
PC29. fix the RAM on in the sockets in motherboard	1	1	-	-
PC30. fix other necessary modules such as video cards in their respective slots on the motherboard	1	1	-	-
PC31. mount the cooling fan above the processor as per standard operating procedure (use thermal paste if required)	1	1	-	-
PC32. assemble print head, components such as wire house, armature, bobbin	1	2	-	-
PC33. stick necessary labels in appropriate places such as stickers of OEM, Manufacturer brand, product labels and product identification serial number labels	1	1	-	-
PC34. use specified precision tools for assembling the components in the module	1	1	-	-
PC35. document the process on machine traveller sheet after completion of each work for inspection	1	1	-	-
PC36. enter the completed work in companys internal system	1	1	-	-
PC37. effectively use appropriate tools to address specific issues	1	1	-	-
PC38. follow standard safety procedures in handling hazardous tools	1	1	-	-
PC39. maintain the tools appropriately to reduce damage or repair	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC40. maintain zero-material defect during material handling by following standard operating procedure	1	1	-	-
Interacting with superior	**5**	**10**	**-**	**-**
PC41. understand the work requirement from superior, periodically	-	1	-	-
PC42. report to superior on the work completed	1	1	-	-
PC43. seek assistance from superior on specific module assembling and handling	1	1	-	-
PC44. escalate the issues and problems that cannot be handled	1	1	-	-
PC45. document the work completed on the company ERP software for tracking and future references	1	1	-	-
PC46. achieve 100% on time completion of kitting as per productivity and assembling target	1	1	-	-
PC47. carry out daily schedule as per instructions	-	2	-	-
PC48. find technical solutions on specific issues	-	1	-	-
PC49. report work status and prepare required documentation as per company standards	-	1	-	-
NOS Total	**40**	**60**	**-**	**-**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N4301
NOS Name	Perform kitting of modules for assembling
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	Manufacturing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	24/02/2022
Next Review Date	24/06/2025
NSQC Clearance Date	24/02/2022

ELE/N4302: Assemble modules to complete equipment

Description

This OS unit is about assembling the various modules and box assembly to complete the hardware product

Elements and Performance Criteria

Understanding work requirement

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

PC1. understand the daily targets on number of assemblies to be made

PC2. understand the product and model for which the days work is assigned to

Receiving modules to be assembled

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

PC3. ensure all the modules required for assembling is available in the kit

PC4. read the machine traveller sheet and ensure that the components in mother board are fixed

PC5. understand any specific instructions for handling modules or on assembling the equipment

PC6. take anti static precautions before work and wear ESD wrist straps or aprons

PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards

PC8. understand the time requirement to assemble different modules in an assembly line

PC9. enter the inventory details in the internal process system as per company requirement example: SAP (ERP system)

Assembling of modules

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

PC10. follow the sequence for assembling for example: In CPU assembling for desktop, mother board, SMPS, Hard disk, Drivers, Wire connectors are assembled sequentially

PC11. follow the standard assembling procedure for specific models of equipment

PC12. ensure the module mounting, fitting, screws, wire connection are firm and is proper to meet the fitness requirement

PC13. mount LED display and PCB wherever required in the casing

PC14. place stickers and labels wherever applicable as per the product specification

PC15. ensure that all labels are appropriately placed and none is left

PC16. document after assembling of each module by mentioning the work done in the machine traveller sheet

PC17. use the tools such as electric screw drivers to assemble the equipment

PC18. assemble the components within the specified time in the moving assembly

PC19. assemble all the modules firmly without damage

PC20. ensure the wire connections are appropriate and not wrongly connected

PC21. ensure that assembling is proper and no fall or movement of modules

PC22. ensure no module and accessories are missed out in assembling

Completing box assembly

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

PC23. ensure all the inner modules (inside the casing) are assembled appropriately

PC24. fit the frame or casing forming the outer cover for the equipment (usually made of steel, aluminium, plastic)

PC25. fix them using screws and ensure firm closure of the case

PC26. place labels and stickers of OEM and the manufacturer in the specified places in outer casing

PC27. check for any loose bolts or improper assembling

PC28. complete the assembling and document them in machine traveller sheet

PC29. pass the equipment to next section after ensuring the assembly is proper

PC30. assemble the box as specified within the specified time

PC31. ensure all labels are appropriately placed and none are missed out

PC32. check for complete assembly of all modules

PC33. use tools as per standard operating procedure and avoid damage

PC34. prevent any accidents while handling hazardous tools

PC35. use appropriate tools for specific rework activity and achieve the results

PC36. maintain zero-material defect during material handling by following standard operating procedure

Interacting with superior

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

PC37. understand the work requirement from superior, periodically

PC38. report to superior on the work completed

PC39. seek assistance from superior on specific module assembling and handling

PC40. escalate the issues and problems that cannot be handled

PC41. document the work completed on the company ERP software for tracking and future references

Achieving productivity and quality standards

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

PC42. achieve 100% on the daily target of number of assembled product

PC43. meet the target of quality as per Service Level Agreement (SLA) and avoid rework

PC44. rework within the turnaround time (TAT) and deliver them

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. companys sales and after sales support policy

KU3. importance of individuals role in the work flow

KU4. reporting structure

KU5. companys policy on products warranty and other terms and conditions

KU6. companys line of business and product portfolio

KU7. companys repair and stores policy

KU8. documentation procedure followed in the company
KU9. companys policy on repair time, turnaround time, production targets, working hours
KU10. basic electronics involved in the hardware
KU11. different type of IT hardware components and their functionality
KU12. functions of electrical and mechanical parts/ modules
KU13. understand the requirement of different modules for a equipment
KU14. understand the different models assembled in the plant and their requirement
KU15. handling specific expensive modules such as processors, hard disks
KU16. voltage and power requirement for different hardware devices
KU17. memory, input, output and storage devices
KU18. different modules in hardware equipment for example SMPS, drivers, hard disk, battery, mother board in case of a desktop
KU19. usage of tools such as electronic screwdrivers, needle-nose pliers, etc
KU20. electrostatic Discharge (ESD) and precautionary steps
KU21. different modules for various models of the equipment
KU22. how to handle different types of boxes made of steel, aluminium, plastic
KU23. how to operate the system and other hardware peripherals
KU24. how to document the material movement note and capture all the action performed
KU25. how to complete the assembling process efficiently in designated time
KU26. achieve quality standards to be followed

Generic Skills (GS)

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

GS1. read job sheet
GS2. document the completed work on material movement note
GS3. read the component requirement and identification of slots for any equipment
GS4. to read assembling procedures for different models
GS5. to share work load as required
GS6. basics of different types of IT hardware equipment such as Desktop, Laptop, Printer, Scanner, Networking device, servers, EPABX
GS7. identify all the components and modules in the equipment they are assembling
GS8. module requirement for specific equipment assembling
GS9. operate computer and laptop and peripheral hardware
GS10. operate the different software
GS11. operate the internal ERP software to record material movement, completion of work, raise for spares
GS12. to use electronic screw drivers for assembling and disassembling of modules
GS13. to use specific handling tools such as needle nose-plier
GS14. to improve work processes

GS15. to reduce repetition of errors

GS16. to spot process disruptions and delays

GS17. to report on any concerns to superiors without delay

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Understanding work requirement	**2**	**2**	**-**	**-**
PC1. understand the daily targets on number of assemblies to be made	1	1	-	-
PC2. understand the product and model for which the days work is assigned to	1	1	-	-
Receiving modules to be assembled	**7**	**7**	**-**	**-**
PC3. ensure all the modules required for assembling is available in the kit	1	1	-	-
PC4. read the machine traveller sheet and ensure that the components in mother board are fixed	1	1	-	-
PC5. understand any specific instructions for handling modules or on assembling the equipment	1	1	-	-
PC6. take anti static precautions before work and wear ESD wrist straps or aprons	1	1	-	-
PC7. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards	1	1	-	-
PC8. understand the time requirement to assemble different modules in an assembly line	1	1	-	-
PC9. enter the inventory details in the internal process system as per company requirement example: SAP (ERP system)	1	1	-	-
Assembling of modules	**12**	**26**	**-**	**-**
PC10. follow the sequence for assembling for example: In CPU assembling for desktop, mother board, SMPS, Hard disk, Drivers, Wire connectors are assembled sequentially	1	2	-	-
PC11. follow the standard assembling procedure for specific models of equipment	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure the module mounting, fitting, screws, wire connection are firm and is proper to meet the fitness requirement	1	2	-	-
PC13. mount LED display and PCB wherever required in the casing	1	2	-	-
PC14. place stickers and labels wherever applicable as per the product specification	1	2	-	-
PC15. ensure that all labels are appropriately placed and none is left	1	2	-	-
PC16. document after assembling of each module by mentioning the work done in the machine traveller sheet	1	2	-	-
PC17. use the tools such as electric screw drivers to assemble the equipment	1	2	-	-
PC18. assemble the components within the specified time in the moving assembly	1	2	-	-
PC19. assemble all the modules firmly without damage	1	2	-	-
PC20. ensure the wire connections are appropriate and not wrongly connected	1	2	-	-
PC21. ensure that assembling is proper and no fall or movement of modules	1	2	-	-
PC22. ensure no module and accessories are missed out in assembling	-	2	-	-
Completing box assembly	**11**	**17**	**-**	**-**
PC23. ensure all the inner modules (inside the casing) are assembled appropriately	-	2	-	-
PC24. fit the frame or casing forming the outer cover for the equipment (usually made of steel, aluminium, plastic)	-	2	-	-
PC25. fix them using screws and ensure firm closure of the case	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. place labels and stickers of OEM and the manufacturer in the specified places in outer casing	1	1	-	-
PC27. check for any loose bolts or improper assembling	1	1	-	-
PC28. complete the assembling and document them in machine traveller sheet	1	1	-	-
PC29. pass the equipment to next section after ensuring the assembly is proper	1	1	-	-
PC30. assemble the box as specified within the specified time	1	1	-	-
PC31. ensure all labels are appropriately placed and none are missed out	1	1	-	-
PC32. check for complete assembly of all modules	-	2	-	-
PC33. use tools as per standard operating procedure and avoid damage	1	1	-	-
PC34. prevent any accidents while handling hazardous tools	1	1	-	-
PC35. use appropriate tools for specific rework activity and achieve the results	1	1	-	-
PC36. maintain zero-material defect during material handling by following standard operating procedure	1	1	-	-
Interacting with superior	**5**	**5**	**-**	**-**
PC37. understand the work requirement from superior, periodically	1	1	-	-
PC38. report to superior on the work completed	1	1	-	-
PC39. seek assistance from superior on specific module assembling and handling	1	1	-	-
PC40. escalate the issues and problems that cannot be handled	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC41. document the work completed on the company ERP software for tracking and future references	1	1	-	-
Achieving productivity and quality standards	**3**	**3**	**-**	**-**
PC42. achieve 100% on the daily target of number of assembled product	1	1	-	-
PC43. meet the target of quality as per Service Level Agreement (SLA) and avoid rework	1	1	-	-
PC44. rework within the turnaround time (TAT) and deliver them	1	1	-	-
NOS Total	**40**	**60**	**-**	**-**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N4302
NOS Name	Assemble modules to complete equipment
Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	Manufacturing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	24/02/2022
Next Review Date	24/06/2025
NSQC Clearance Date	24/02/2022

ELE/N9972: Communicate and coordinate effectively with others

Description

This unit is about effective, respectful communication and coordination with supervisors and colleagues

Scope

The scope covers the following :

- Communicate effectively with supervisor and colleagues
- Respect gender and ability differences

Elements and Performance Criteria

Communicate effectively with supervisor and colleagues

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

PC1. communicate potential hazards of a particular location

PC2. comply with organisation's policies and procedures for working with colleagues

PC3. maintain personal hygiene and professional appearance

PC4. seek clarification on the information provided by supervisor, if needed

PC5. respect the personal and professional space of colleagues and superiors

PC6. report work completed as per the schedule to superior and inform of any deviations or anomalies

PC7. analyse and act on feedback received from supervisor

Respect gender and ability differences

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

PC8. work depicting proper behaviour towards all genders and people with disability

PC9. identify acts of discrimination and sexual harassment and report to concerned authorities

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. importance of personal grooming

KU2. organisation's policy on code of conduct

KU3. organisation's reporting structure and documentation policy

KU4. how to communicate effectively through all means including face-to-face, telephonic as well as written

KU5. different types of information that colleagues might need and the importance of providing the same as and when required

KU6. rights and duties w.r.t PwD at workplace

KU7. organisation policies and standards to support PwD

KU8. gender and disability based concepts or issues such as social and cultural bias, gender roles stereotypes, gender inequality and discrimination, especially for women and transgender

KU9. organisation grievance redressal mechanisms and related legislations

KU10. health and safety precautions for all individuals, including PwD at workplace

Generic Skills (GS)

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

GS1. listen actively and carefully in all interactions

GS2. communicate politely under all circumstances

GS3. report potential areas of disruptions to work process in writing or in person

GS4. maintain positive and effective relationships with others

GS5. decide when to report to supervisor and when to deal with a colleague depending on the type of concern

GS6. receive and act on supervisor's feedback in a constructive manner

GS7. speak, listen, and write using gender-inclusive or gender-neutral terms and gestures

GS8. be aware and accountable of ones own gender identity and role, as well as beliefs and practices about disability

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Communicate effectively with supervisor and colleagues	**27**	**51**	**-**	**-**
PC1. communicate potential hazards of a particular location	4	7	-	-
PC2. comply with organisation's policies and procedures for working with colleagues	4	7	-	-
PC3. maintain personal hygiene and professional appearance	4	7	-	-
PC4. seek clarification on the information provided by supervisor, if needed	4	8	-	-
PC5. respect the personal and professional space of colleagues and superiors	3	8	-	-
PC6. report work completed as per the schedule to superior and inform of any deviations or anomalies	4	7	-	-
PC7. analyse and act on feedback received from supervisor	4	7	-	-
Respect gender and ability differences	**8**	**14**	**-**	**-**
PC8. work depicting proper behaviour towards all genders and people with disability	4	7	-	-
PC9. identify acts of discrimination and sexual harassment and report to concerned authorities	4	7	-	-
NOS Total	**35**	**65**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N9972
NOS Name	Communicate and coordinate effectively with others
Sector	Electronics
Sub-Sector	Generic
Occupation	Generic - Organizational Behaviour
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	24/06/2025
NSQC Clearance Date	24/02/2022

ELE/N1003: Work effectively, sustainably and safely

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Achieve optimum productivity and quality

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

PC1. keep immediate work area clean and tidy

PC2. work effectively to meet daily target

PC3. deliver work of expected quality despite constraints

PC4. ensure timely completion of tasks

PC5. comply with organization's policies and procedures

Implement health and safety procedures

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

PC6. take ESD precautions while doing work

PC7. avoid any damage in components due to negligence in ESD procedures

PC8. participate in fire drills or any other safety workshops organised by the organisation

PC9. use appropriate Personal Protective Equipment (PPE) as advised by the organisation

Organise waste management and recycling

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

PC10. identify and segregate recyclable/non-recyclable and hazardous wastes

PC11. dispose waste as per the suggested procedures by the organization

PC12. participate in waste management and waste disposal workshops organised at workplace

Conserve resources

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

PC13. use all resources judiciously

PC14. perform routine cleaning of tools, machines and equipment

PC15. report malfunctioning of machines and equipment

PC16. connect electrical equipment and appliances properly when in use and turn off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

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

Assessment Criteria

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

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

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N1003
NOS Name	Work effectively, sustainably and safely
Sector	Electronics
Sub-Sector	Generic
Occupation	Generic - Health Safety
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	24/02/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

DGT/VSQ/N0101: Employability Skills (30 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
- 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. understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

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

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

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

PC4. speak with others using some basic English phrases or sentences

Communication Skills

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

PC5. follow good manners while communicating with others

PC6. work with others in a team

Diversity & Inclusion

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

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

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

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

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

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

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

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

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

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

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 basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

KU10. how to compute income and expenses
KU11. importance of maintaining safety and security in financial transactions
KU12. different legal rights and laws
KU13. how to operate digital devices and applications safely and securely
KU14. ways to identify business opportunities
KU15. types of customers and their needs
KU16. how to apply for a job and prepare for an interview
KU17. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. communicate effectively using appropriate language
GS2. behave politely and appropriately with all
GS3. perform basic calculations
GS4. solve problems effectively
GS5. be careful and attentive at work
GS6. use time effectively
GS7. maintain hygiene and sanitisation to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**1**	**3**	**-**	**-**
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	**1**	**1**	**-**	**-**
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**1**	**-**	**-**
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
Financial and Legal Literacy	**3**	**4**	**-**	**-**
PC9. use various financial products and services safely and securely	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
Essential Digital Skills	**4**	**6**	**-**	**-**
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	**3**	**5**	**-**	**-**
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
Customer Service	**2**	**2**	**-**	**-**
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**1**	**3**	**-**	**-**
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	29/01/2026
NSQC Clearance Date	29/01/2021

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.

Minimum Aggregate Passing % at QP Level : 50

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ELE/N4301.Perform kitting of modules for assembling	40	60	-	-	100	35
ELE/N4302.Assemble modules to complete equipment	40	60	-	-	100	35
ELE/N9972.Communicate and coordinate effectively with others	35	65	-	-	100	10
ELE/N1003.Work effectively, sustainably and safely	40	60	-	-	100	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	0	0	50	10
Total	**175**	**275**	**-**	**-**	**450**	**100**

Acronyms

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

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.