

Qualification Pack



Electronics Machine Maintenance Technician- Shop Floor

QP Code: ELE/Q2501

Version: 4.0

NSQF Level: 4

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ELE/Q2501: Electronics Machine Maintenance Technician- Shop Floor

Brief Job Description

The individual at work is carries out scheduled maintenance of machines used on shop floor using manufacturers manual and as per training given by manufacturer in order to have zero unscheduled downtime.

Personal Attributes

The job requires the individual to have: good eye sight, attention to details, standing for long hours, handling large and heavy machines and ability to work in high decibel noise and dust-free environment.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ELE/N7911: Equipment Maintenance Planning & Preparation](#)
2. [ELE/N7910: Execution of Maintenance Activities & Quality Assurance](#)
3. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	Consumer Electronics & IT Hardware
Occupation	Quality Maintenance
Country	India
NSQF Level	4
Credits	17
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8212.0400

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Minimum Educational Qualification & Experience	12th grade Pass (12th grade or equivalent) with NA of experience OR 10th grade pass (10th grade or equivalent) with 3 Years of experience Relevant Experience in Consumer Electronics & IT Hardware OR Previous relevant Qualification of NSQF Level (Level-3 in relevant domain) with 3 Years of experience Relevant Experience in Consumer Electronics & IT Hardware
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	NA
Next Review Date	07/10/2028
NSQC Approval Date	07/10/2025
Version	4.0
Reference code on NQR	QG-04-EH-044932025-V2-ESSCI
NQR Version	2

Remarks:

NA

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ELE/N7911: Equipment Maintenance Planning & Preparation

Description

This NOS is about to plan and prepare for equipment maintenance activities by assessing requirements, scheduling tasks, and ensuring availability of tools, materials, and resources

Scope

The scope covers the following :

- Understanding Equipment Manuals and Manufacturing Processes
- Preparing for Maintenance Activities

Elements and Performance Criteria

Understanding Equipment Manuals and Manufacturing Processes

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

- PC1.** Discuss and performs scheduled maintenance of shop floor machines using the manufacturer's manual and training guidelines to ensure zero unscheduled downtime and optimal equipment performance
- PC2.** Study equipment and machine manuals thoroughly to understand operational guidelines and maintenance requirements.
- PC3.** Develop and document maintenance cycles for each piece of equipment by recording maintenance schedules. And ensure that drawings and technical information accurately reflect the current status of equipment.
- PC4.** Analyze process cycles to confirm that equipment operates according to specified parameters.
- PC5.** Collaborate with production teams to schedule maintenance activities, aiming to minimize breakdowns, leakages, and failures.

Preparing for Maintenance Activities

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

- PC6.** Plan and schedule maintenance tasks for machines and equipment, considering operational demands.
- PC7.** Organize installation or relocation activities in accordance with equipment manuals.
- PC8.** Develop strategies for preventive or predictive maintenance to enhance equipment reliability.
- PC9.** Coordinate with supervisors to finalize maintenance plans and schedules.
- PC10.** Review predictive maintenance software, sensors, and digital maintenance schedules to monitor and carry out preventive tasks efficiently.
- PC11.** Assess inventory levels and anticipate the need for equipment, parts, and supplies.
- PC12.** Verify the receipt and quality of ordered inventory items.
- PC13.** Prepare standard or specialized toolkits for maintenance tasks.
- PC14.** Ensure the availability of consumables and replacement parts required for maintenance.
- PC15.** Confirm that operators have completed routine checklist activities for equipment upkeep

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Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Understand the operational guidelines, safety protocols, and maintenance procedures outlined in equipment manuals.
- KU2.** Know the concepts of preventive, predictive, and corrective maintenance and their impact on equipment efficiency.
- KU3.** Understand how to develop maintenance schedules and document machine performance data accurately.
- KU4.** Be familiar with digital maintenance tools, sensors, and predictive maintenance software
- KU5.** Know procedures for inventory management, parts verification, and coordination with production teams

Generic Skills (GS)

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

- GS1.** Apply analytical skills to interpret manuals, maintenance data, and process cycles effectively.
- GS2.** Communicate and coordinate with production and maintenance teams to schedule and execute maintenance tasks.
- GS3.** Use digital tools and software for maintenance planning, tracking, and performance monitoring.
- GS4.** Demonstrate problem-solving abilities to minimize equipment downtime and optimize performance.
- GS5.** Maintain accuracy, organization, and adherence to safety and quality standards during all maintenance activities.

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understanding Equipment Manuals and Manufacturing Processes</i>	10	20	-	-
PC1. Discuss and performs scheduled maintenance of shop floor machines using the manufacturer's manual and training guidelines to ensure zero unscheduled downtime and optimal equipment performance	-	-	-	-
PC2. Study equipment and machine manuals thoroughly to understand operational guidelines and maintenance requirements.	-	-	-	-
PC3. Develop and document maintenance cycles for each piece of equipment by recording maintenance schedules. And ensure that drawings and technical information accurately reflect the current status of equipment.	-	-	-	-
PC4. Analyze process cycles to confirm that equipment operates according to specified parameters.	-	-	-	-
PC5. Collaborate with production teams to schedule maintenance activities, aiming to minimize breakdowns, leakages, and failures.	-	-	-	-
<i>Preparing for Maintenance Activities</i>	30	40	-	-
PC6. Plan and schedule maintenance tasks for machines and equipment, considering operational demands.	-	-	-	-
PC7. Organize installation or relocation activities in accordance with equipment manuals.	-	-	-	-
PC8. Develop strategies for preventive or predictive maintenance to enhance equipment reliability.	-	-	-	-
PC9. Coordinate with supervisors to finalize maintenance plans and schedules.	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. Review predictive maintenance software, sensors, and digital maintenance schedules to monitor and carry out preventive tasks efficiently.	-	-	-	-
PC11. Assess inventory levels and anticipate the need for equipment, parts, and supplies.	-	-	-	-
PC12. Verify the receipt and quality of ordered inventory items.	-	-	-	-
PC13. Prepare standard or specialized toolkits for maintenance tasks.	-	-	-	-
PC14. Ensure the availability of consumables and replacement parts required for maintenance.	-	-	-	-
PC15. Confirm that operators have completed routine checklist activities for equipment upkeep	-	-	-	-
NOS Total	40	60	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N7911
NOS Name	Equipment Maintenance Planning & Preparation
Sector	Electronics
Sub-Sector	
Occupation	Quality Maintenance
NSQF Level	4
Credits	9
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

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ELE/N7910: Execution of Maintenance Activities & Quality Assurance

Description

This NOS is about to per plan and perform quality assurance checks to ensure equipment reliability, safety, and operational standards

Scope

The scope covers the following :

- Performing Maintenance Activities
- Achieving Productivity and Quality Standards

Elements and Performance Criteria

Performing Maintenance Activities

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

- PC1.** Execute scheduled maintenance and unscheduled repairs following manufacturers' instructions.
- PC2.** Address daily equipment breakdowns promptly to minimize downtime.
- PC3.** Optimize machinery operations to ensure peak performance.
- PC4.** Inspect internal components, such as wiring and motherboards, to verify proper functionality.
- PC5.** Discuss any unusual equipment issues with operators to identify potential problems.
- PC6.** Monitor for defective materials and equipment malfunctions during operations.
- PC7.** Maintain regular cleaning and sanitation of all equipment and facilities.
- PC8.** Safely stop machines to remove finished workpieces or to change tooling and setups as required.
- PC9.** Ensure workpieces are properly lubricated and cooled during machine operation.
- PC10.** Replace scheduled spare parts during maintenance activities as per the maintenance plan.
- PC11.** Update maintenance records and change due-date stickers on machines upon completion of tasks.
- PC12.** Improve, debug, and optimize equipment setups and changeovers to enhance efficiency.
- PC13.** Maintain online documentation for daily maintenance activities.
- PC14.** Document all maintenance activities, including regular upkeep, replacements, preventive measures, breakdown logs, repairs, testing, and machine history.

Achieving Productivity and Quality Standards

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

- PC15.** Ensure 100% completion of scheduled maintenance procedures.
- PC16.** Meet target specifications within established schedules.
- PC17.** Maintain a dust-free environment in compliance with company policies.

Knowledge and Understanding (KU)

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The individual on the job needs to know and understand:

- KU1.** Understand machine operation principles, maintenance schedules, and manufacturer-recommended repair procedures.
- KU2.** Know methods for identifying, diagnosing, and troubleshooting equipment malfunctions.
- KU3.** Understand lubrication, cooling, and cleaning processes to ensure equipment longevity.
- KU4.** Be familiar with maintenance documentation standards, including repair logs and performance records.
- KU5.** Understand productivity and quality benchmarks related to machine performance and maintenance efficiency.

Generic Skills (GS)

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

- GS1.** Apply technical skills to execute preventive and corrective maintenance accurately.
- GS2.** Communicate effectively with operators and supervisors to identify and resolve maintenance issues.
- GS3.** Use digital tools to record maintenance activities and update machine history logs.
- GS4.** Demonstrate problem-solving skills to optimize machine performance and minimize downtime.
- GS5.** Follow workplace safety, cleanliness, and quality assurance practices during maintenance operations.

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Performing Maintenance Activities</i>	30	48	-	-
PC1. Execute scheduled maintenance and unscheduled repairs following manufacturers' instructions.	-	-	-	-
PC2. Address daily equipment breakdowns promptly to minimize downtime.	-	-	-	-
PC3. Optimize machinery operations to ensure peak performance.	-	-	-	-
PC4. Inspect internal components, such as wiring and motherboards, to verify proper functionality.	-	-	-	-
PC5. Discuss any unusual equipment issues with operators to identify potential problems.	-	-	-	-
PC6. Monitor for defective materials and equipment malfunctions during operations.	-	-	-	-
PC7. Maintain regular cleaning and sanitation of all equipment and facilities.	-	-	-	-
PC8. Safely stop machines to remove finished workpieces or to change tooling and setups as required.	-	-	-	-
PC9. Ensure workpieces are properly lubricated and cooled during machine operation.	-	-	-	-
PC10. Replace scheduled spare parts during maintenance activities as per the maintenance plan.	-	-	-	-
PC11. Update maintenance records and change due-date stickers on machines upon completion of tasks.	-	-	-	-
PC12. Improve, debug, and optimize equipment setups and changeovers to enhance efficiency.	-	-	-	-
PC13. Maintain online documentation for daily maintenance activities.	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. Document all maintenance activities, including regular upkeep, replacements, preventive measures, breakdown logs, repairs, testing, and machine history.	-	-	-	-
<i>Achieving Productivity and Quality Standards</i>	10	12	-	-
PC15. Ensure 100% completion of scheduled maintenance procedures.	-	-	-	-
PC16. Meet target specifications within established schedules.	-	-	-	-
PC17. Maintain a dust-free environment in compliance with company policies.	-	-	-	-
NOS Total	40	60	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N7910
NOS Name	Execution of Maintenance Activities & Quality Assurance
Sector	Electronics
Sub-Sector	
Occupation	Quality Maintenance
NSQF Level	4
Credits	7
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

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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

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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

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- 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

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	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.	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-

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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	-	-	-	-
<i>Essential Digital Skills</i>	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	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	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	-	-

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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	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

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.

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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/N7911.Equipment Maintenance Planning & Preparation	40	60	-	-	100	40
ELE/N7910.Execution of Maintenance Activities & Quality Assurance	40	60	-	-	100	40
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	20
Total	100	150	-	-	250	100

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Acronyms

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

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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.

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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.