









System Architect - 5G Cloud RAN

QP Code: TEL/Q6305

Version: 2.0

NSQF Level: 6

Telecom Sector Skill Council || 3rd Floor, Plot No 126, Sector - 44 Gurgaon - 122003









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TEL/Q6305: System Architect - 5G Cloud RAN

Brief Job Description

A System Architect - 5G Cloud RAN is responsible for developing and implementing system architecture for 5G Cloud Radio Access Network (RAN) to enable high-speed wireless telecommunication over a virtualised and centralised or edge cloud network.

Personal Attributes

The person must have an aptitude for detail along with strong analytical and problem-solving skills. The individual should have excellent verbal and written communication skills. The person must also have good organisational and coordination skills.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

- 1. TEL/N6316: Prepare for the Delivery of 5G Cloud RAN Project
- 2. TEL/N6317: Use the appropriate hardware platform and environment for 5G Cloud RAN
- 3. TEL/N6318: Manage orchestration, automation, and RAN programmability
- 4. TEL/N9103: Implement Effective Interaction at workplace
- 5. TEL/N9104: Manage Work, Resources and Safety at workplace
- 6. DGT/VSQ/N0103: Employability Skills (90 Hours)

Qualification Pack (QP) Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
Country	India
NSQF Level	6
Credits	26









Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL
Minimum Educational Qualification & Experience	Pursuing first year of 2-year PG program after completing 3 year UG degree OR Pursuing 1st year of PG- Eng (diploma after 3-year UG degree) OR Completed 4 year UG program (in case of 4-year UG) OR Pursuing 4th year UG (in case of 4-year UG with honours/ honours with research) (and continuing education with No Experience Required) OR Completed 3 year UG degree with 1 Year of experience OR 12th grade pass with 2 year NTC/ CITS/NAC (Completed 2 year of diploma after 12th with 2 year relevant experience) OR Previous relevant Qualification of NSQF Level (5) with 3 Years of experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	22 Years
Last Reviewed On	NA
Next Review Date	31/03/2025
NSQC Approval Date	31/03/2022
Version	2.0
Reference code on NQR	QG-06-TL-00437-2023-V1.1-TSSC
NQR Version	1.1









TEL/N6316: Prepare for the Delivery of 5G Cloud RAN Project

Description

This OS unit is about making appropriate preparations for the delivery of 5G Cloud Radio Access Network (RAN) project.

Scope

The scope covers the following:

- Determine the scope of work
- Develop strategy and prepare for project delivery

Elements and Performance Criteria

Determine the scope of work

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

- **PC1.** analyse the client requirements to formulate appropriate strategies for the delivery of 5G Cloud RAN project
- PC2. identify the relevant parameters and limitations to the delivery of 5G cloud RAN project
- **PC3.** determine the interworking and compatibility of Cloud RAN with the existing and installed base of Radio Network

Develop strategy and prepare for project delivery

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

- **PC4.** prepare the estimates for the required resources and coordinate with the relevant personnel for the approval of the project budget
- **PC5.** create the design and framework for Cloud, DevOps and Software Development Life Cycle (SDLC) automation
- **PC6.** develop appropriate strategies concerning Cloud delivery, DevOps and SDMC automation according to the organisational goals and standards
- **PC7.** collect inputs for gNodeB integration with the central units
- **PC8.** analyse the vendor products and develop a multi-vendor open RAN architecture as per the organisational requirements
- **PC9.** assist the infrastructure and DevOps team members by mentoring and guiding them concerning the project objectives and delivery
- **PC10.** provide support to agile projects concerning all their infrastructure and DevOps needs
- **PC11.** develop and manage the implementation of appropriate processes for test automation and service quality assurance
- **PC12.** coordinate with the relevant personnel to prepare documents explaining RAN call flows, and Key Performance Indicators (KPIs) to be used for solution development
- **PC13.** prepare service assurance architecture and test automation architecture documents

Knowledge and Understanding (KU)









The individual on the job needs to know and understand:

- **KU1.** the benefits of making 5G RAN an open RAN architecture, allowing it to be integrated with the central unit packet core network through standard 3GPP defined protocols
- **KU2.** the benefit of opting for edge clouds for 5G backhaul connectivity optimisation, which are closer to the last mile delivery points, i.e. gNodeB and allow for easy aggregation to the centralised cloud data centre
- **KU3.** the process of determining the client's requirements for the delivery of 5G cloud RAN project and identifying the relevant parameters and limitations to its delivery
- **KU4.** the importance and process of determining the interworking and compatibility of Cloud RAN with the existing and installed base
- **KU5.** the process of preparing the estimates for the required resources and getting approval for the project budget
- **KU6.** the process of creating the design and framework for initiatives on Cloud, DevOps and Software Development Life Cycle (SDLC) automation
- **KU7.** the process of developing appropriate strategies concerning Cloud delivery, DevOps and SDLC automation according to the organizational goals and standards
- **KU8.** the process of analysing the vendor products and developing a multi-vendor RAN architecture as per the organisational requirements
- **KU9.** the importance of assisting the infrastructure and DevOps team members concerning the project objectives and delivery
- **KU10.** the process of developing and managing the implementation of appropriate processes for test automation and service quality assurance
- **KU11.** the process of preparing documents explaining RAN call flows, and Key Performance Indicator (KPIs) to be used for solution development
- **KU12.** the process of preparing the service assurance architecture, and test automation architecture documents

Generic Skills (GS)

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

- **GS1.** maintain work-related notes and records
- **GS2.** read the relevant literature and catalogues to get the latest updates about the field of work
- **GS3.** listen attentively to understand the information/ instructions being shared
- GS4. communicate politely and professionally
- **GS5.** plan and prioritise tasks to ensure timely completion
- **GS6.** coordinate with the co-workers to achieve the work objectives
- **GS7.** evaluate all possible solutions to a problem to select the best one
- **GS8.** take guick decisions to deal with workplace emergencies/accidents









Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Determine the scope of work	7	11	-	6
PC1. analyse the client requirements to formulate appropriate strategies for the delivery of 5G Cloud RAN project	3	4	-	2
PC2. identify the relevant parameters and limitations to the delivery of 5G cloud RAN project	2	3	-	2
PC3. determine the interworking and compatibility of Cloud RAN with the existing and installed base of Radio Network	2	4	-	2
Develop strategy and prepare for project delivery	28	39	-	9
PC4. prepare the estimates for the required resources and coordinate with the relevant personnel for the approval of the project budget	2	5	-	1
PC5. create the design and framework for Cloud, DevOps and Software Development Life Cycle (SDLC) automation	3	4	-	1
PC6. develop appropriate strategies concerning Cloud delivery, DevOps and SDMC automation according to the organisational goals and standards	3	4	-	1
PC7. collect inputs for gNodeB integration with the central units	2	2	-	1
PC8. analyse the vendor products and develop a multi-vendor open RAN architecture as per the organisational requirements	4	4	-	1
PC9. assist the infrastructure and DevOps team members by mentoring and guiding them concerning the project objectives and delivery	4	5	-	1
PC10. provide support to agile projects concerning all their infrastructure and DevOps needs	2	4	-	1
PC11. develop and manage the implementation of appropriate processes for test automation and service quality assurance	3	4	-	1









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. coordinate with the relevant personnel to prepare documents explaining RAN call flows, and Key Performance Indicators (KPIs) to be used for solution development	3	4	-	1
PC13. prepare service assurance architecture and test automation architecture documents	2	3	-	-
NOS Total	35	50	-	15









National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6316
NOS Name	Prepare for the Delivery of 5G Cloud RAN Project
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
NSQF Level	6
Credits	7
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022









TEL/N6317: Use the appropriate hardware platform and environment for 5G Cloud RAN

Description

This OS unit is about using the appropriate hardware platform and environment for 5G cloud RAN.

Scope

The scope covers the following:

- Use the Commercial-off-the-shelf (COTS) hardware and accelerators
- Use the Cloud-native architecture

Elements and Performance Criteria

Use the Commercial-off-the-shelf (COTS) hardware and accelerators

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

- **PC1.** select the appropriate hardware platform and the virtualization environment such as COTS server hardware with processors, Network Interface Cards (NICs) and hardware accelerators
- **PC2.** set appropriate server configurations based on workload demands for Distributed Units (DUs)
- **PC3.** use accelerators to manage layer one pipeline functions and meet the demands of large Multiple Input, Multiple Output (MIMO) radios

Use the Cloud native architecture

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

- **PC4.** use the appropriate Cloud native technologies, such as Kubernetes and apply DevOps principles to realise RAN functions as micro-services in containers over bare metal servers
- **PC5.** perform cloud RAN independent life cycle management following the DevOps principles and Continuous Integration (CI) and Continuous Deployment (CD)
- **PC6.** utilize the Cloud native architecture and its software modularity to increase/ scale component RAN micro-services
- **PC7.** follow the appropriate measures to achieve application-level reliability with platform abstraction, along with simplified operations and maintenance with network automation
- **PC8.** ensure the use of the latest software development tools, techniques and approaches
- **PC9.** monitor and ensure the recommended best practices are followed by the organization in Cloud computing, infrastructure as code, DevOps, CI/CD and Release Engineering (RE)

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the functioning of centralized and Cloud computing-based Cloud Radio Access Network (RAN), and its relevance and deployment in 5G networks









- **KU2.** the process of virtualization of Cloud RAN 5G network functions using Network Functions Virtualization (NFV), and provides a platform for other cloud-based application services, such as a Multi-access Edge Computing (MEC)
- **KU3.** the use of Baseband Units (BBUs) by a Cloud RAN to convert digital signals to radio transmissions and vice-versa
- **KU4.** the use of Radio Frequency Units (RFUs) in 5G Cloud RAN
- **KU5.** the benefit of using Cloud RAN architecture for easy and economical deployment and scaling of 5G wireless network and IoT
- **KU6.** the concept of BBU Hotel and how it helps lower the total cost of hardware cooling and power requirements, allowing for easier maintenance access and management of BBUs
- **KU7.** virtualization of network functions helps the scalability and flexibility of wireless networks, allowing for pooling and dynamic allocation of resources
- **KU8.** the process of software development, including cloud computing and DevOps activities
- **KU9.** the benefits and process of using Infrastructure as Code software tools
- **KU10.** the use of cloud services offered by different providers, such as Amazon, Azure Cloud Service, GCP, IBM Cloud, etc.
- **KU11.** various DevOps practices and tools, system monitoring and integration with logging and monitoring tool
- **KU12.** the process of implementing distributed applications in a container environment (Docker/Kubernetes), and application migration to Cloud
- KU13. the benefits of using cloud infrastructure and Open Application Model (OAM)
- **KU14.** the challenges concerning server and accelerator selection, capacity dimensioning, power efficiency planning and security planning, and how to overcome them
- **KU15.** the benefits of introducing Cloud Native Service Management and Orchestration (SMO) in parallel to the network to bring RAN programmability
- **KU16.** the process of finding deep architectural solutions using AWS, Azure, GCP, IBM Cloud services in laaS, PaaS, etc.
- **KU17.** the public cloud network and security capabilities/services across AWS, GCP, Azure, etc.
- **KU18.** the process of implementing DevOps architectural framework for cloud platform and applications, resiliency/disaster recovery, micro-services, and other PaaS services
- **KU19.** the process of architecting solutions within a public cloud
- **KU20.** the use of Cloud CLI, APIs, CloudFormation templates and Management Console, Monitoring and Logging, Cloud Optimization, Security Services Cloud Build Services, Cloud Migration (CSP to CSP, On-premises to CSP), Cloud Managed Services, CSPs and costing
- **KU21.** the process of creating DevOps tool chain using DevOps tools
- **KU22.** the process of automation using Python or shell scripting
- **KU23.** the process of selecting the appropriate hardware platform and the virtualization environment, such as COTS server hardware with processors, NICs and hardware accelerators
- **KU24.** the process of setting appropriate server configurations based on workload demands for DUs
- **KU25.** the process of using accelerators to manage layer one pipeline functions to meet the demands of large MIMO radios
- **KU26.** the process of performing Cloud RANs independent life cycle management and the relevant DevOps principles and CI/CD









- **KU27.** the process of using the Cloud-native architecture and its software modularity to increase/ scale component RAN micro-services
- **KU28.** the appropriate measures to achieve application-level reliability with platform abstraction, with simplified operations and maintenance with network automation

Generic Skills (GS)

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

- GS1. maintain work-related notes and records
- **GS2.** read the relevant literature to get the latest updates about the field work
- GS3. listen attentively to understand the information/ instructions being shared
- **GS4.** communicate politely and professionally
- **GS5.** plan and prioritize tasks to ensure timely completion
- **GS6.** coordinate with the co-workers to achieve the work objectives
- **GS7.** evaluate all possible solutions to a problem to select the best one
- GS8. take quick decisions to deal with workplace emergencies/accidents









Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Use the Commercial-off-the-shelf (COTS) hardware and accelerators	10	13	-	6
PC1. select the appropriate hardware platform and the virtualization environment such as COTS server hardware with processors, Network Interface Cards (NICs) and hardware accelerators	5	5	-	2
PC2. set appropriate server configurations based on workload demands for Distributed Units (DUs)	2	4	-	2
PC3. use accelerators to manage layer one pipeline functions and meet the demands of large Multiple Input, Multiple Output (MIMO) radios	3	4	-	2
Use the Cloud native architecture	20	42	-	9
PC4. use the appropriate Cloud native technologies, such as Kubernetes and apply DevOps principles to realise RAN functions as micro-services in containers over bare metal servers	4	8	-	2
PC5. perform cloud RAN independent life cycle management following the DevOps principles and Continuous Integration (CI) and Continuous Deployment (CD)	4	8	-	2
PC6. utilize the Cloud native architecture and its software modularity to increase/ scale component RAN micro-services	2	8	-	2
PC7. follow the appropriate measures to achieve application-level reliability with platform abstraction, along with simplified operations and maintenance with network automation	4	8	-	-
PC8. ensure the use of the latest software development tools, techniques and approaches	2	4	-	1
PC9. monitor and ensure the recommended best practices are followed by the organization in Cloud computing, infrastructure as code, DevOps, CI/CD and Release Engineering (RE)	4	6	-	2
NOS Total	30	55	-	15









National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6317
NOS Name	Use the appropriate hardware platform and environment for 5G Cloud RAN
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
NSQF Level	6
Credits	7
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022









TEL/N6318: Manage orchestration, automation, and RAN programmability

Description

This OS unit is about managing orchestration, automation, and RAN programmability in 5G cloud RAN.

Scope

The scope covers the following:

- Manage orchestration and automation
- Manage RAN programmability

Elements and Performance Criteria

Manage orchestration and automation

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

- **PC1.** use the orchestration systems to manage Physical Network Functions (PNF), Virtual Network Functions (VNF), Cloud Native Network Functions (CNF) and end-to-end life cycle management of services across Cloud RAN and 5G core and underlying cloud infrastructure
- PC2. perform Cloud RAN management to manage hybrid network functions in RAN

Manage RAN programmability

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

- **PC3.** use cloud RAN to enable programmable networks and model-driven management and orchestration systems
- **PC4.** carry out Cloud RAN automation, management and orchestration to deliver 5G network services across various industries for IoT and other use cases
- **PC5.** evaluate the key use cases and deployment scenarios to select the appropriate cloud infrastructure including infrastructure hardware, cloud platform and RAN applications that will be hosted on it
- **PC6.** follow the appropriate measures to enable interworking of Cloud RAN with the existing and installed base
- **PC7.** carry out virtualization of Central Unit (CU)-User Plane (UP) for flexible distributed edge placement of VCU-UP and Virtual User Plane Function (VUPF)
- **PC8.** follow the appropriate measures for full Cloud-native realisation of both CU-CP and CU-UP, providing independent scaling for centralized control and user planes and creating locational flexibility in deployments

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the process of using the orchestration systems to manage PNF, VNF, CNF and end-to-end life cycle management of services across Cloud RAN, and 5G core and underlying cloud infrastructure









- **KU2.** the process of performing Cloud RAN management to manage hybrid network functions in RAN
- **KU3.** the process of using Cloud RAN to enable programmable networks and model-driven management and orchestration systems
- **KU4.** the process of carrying out Cloud RAN automation, management and orchestration to deliver 5G network services across various industries
- **KU5.** the process of evaluating the key use cases and deployment scenarios to select the appropriate cloud infrastructure, including the infrastructure hardware, cloud platform and RAN applications that will be hosted on it
- **KU6.** the process of enabling interworking of Cloud RAN with the existing and installed base of Radio Network resources
- **KU7.** the process of carrying out virtualization of CU/ CU-UP for flexible distributed edge placement of vCU-UP and vUPF
- **KU8.** the process of cloud-native realization of CU-CP and CU-UP, providing independent scaling for centralized control and user planes and creating locational flexibility in deployments

Generic Skills (GS)

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

- **GS1.** maintain work-related records
- **GS2.** read the relevant guides and literature to get the latest information about the field of work
- **GS3.** communicate clearly and politely
- **GS4.** listen attentively to understand the information/ instructions being shared
- **GS5.** plan and prioritize tasks to ensure timely completion
- **GS6.** identify appropriate solutions to work-related issues
- **GS7.** take guick decisions in case of an emergency/accident









Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Manage orchestration and automation	7	12	-	2
PC1. use the orchestration systems to manage Physical Network Functions (PNF), Virtual Network Functions (VNF), Cloud Native Network Functions (CNF) and end-to-end life cycle management of services across Cloud RAN and 5G core and underlying cloud infrastructure	5	8	-	1
PC2. perform Cloud RAN management to manage hybrid network functions in RAN	2	4	-	1
Manage RAN programmability	23	43	-	13
PC3. use cloud RAN to enable programmable networks and model-driven management and orchestration systems	3	5	-	1
PC4. carry out Cloud RAN automation, management and orchestration to deliver 5G network services across various industries for IoT and other use cases	3	6	-	2
PC5. evaluate the key use cases and deployment scenarios to select the appropriate cloud infrastructure including infrastructure hardware, cloud platform and RAN applications that will be hosted on it	4	8	-	3
PC6. follow the appropriate measures to enable interworking of Cloud RAN with the existing and installed base	4	8	-	2
PC7. carry out virtualization of Central Unit (CU)- User Plane (UP) for flexible distributed edge placement of VCU-UP and Virtual User Plane Function (VUPF)	5	10	-	2
PC8. follow the appropriate measures for full Cloud-native realisation of both CU-CP and CU-UP, providing independent scaling for centralized control and user planes and creating locational flexibility in deployments	4	6	-	3
NOS Total	30	55	-	15









National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6318
NOS Name	Manage orchestration, automation, and RAN programmability
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
NSQF Level	6
Credits	6
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022









TEL/N9103: Implement Effective Interaction at workplace

Description

This OS unit is about communicating with superiors and colleagues as well as customers and other stakeholders in own or other work groups within as well as outside the organisation

Scope

The scope covers the following:

- Interact effectively with superiors
- Interact effectively with colleagues and customers
- Respect differences of gender and ability

Elements and Performance Criteria

Interact effectively with superiors

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

- **PC1.** interpret work requirements from the superior and customers
- PC2. report any unforeseen disruptions or delays to superiors and/or concerned person
- **PC3.** achieve productivity and quality of work as per the company procedure

Interact effectively with colleagues and customers

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

- **PC4.** explain the work requirements and the scope of work to the team
- **PC5.** communicate information using different techniques such as face-to-face, telephonic and written means
- **PC6.** co-ordinate with team to integrate work as per requirements
- **PC7.** respect colleagues and customers and communicate taking care of their personal spaces
- **PC8.** find solutions to work related difficulties with mutual agreement with colleagues and customers
- **PC9.** resolve conflicts within the team at work to achieve smooth workflow
- **PC10.** motivate team members to put organizational goals over individual goals
- **PC11.** encourage the team to provide feedback on any issues facing them

Respect differences of gender and ability

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

- **PC12.** ensure personal behaviour of self and team is conducted taking gender and disability of the person into consideration
- PC13. demonstrate sensitivity towards gender and person with disability while communicating
- PC14. list the different types of disabilities with their respective issues
- PC15. provide help to PwD team members in overcoming any challenges faced in work
- **PC16.** use inclusive language irrespective of the disability and the gender of the person
- **PC17.** treat all colleagues and co-workers equally









PC18. respect personal space of colleagues and co-workers

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** importance of effective and different means of communication and establishing good working relationships with colleagues and superiors
- **KU2.** importance of helping colleagues with problems, in order to meet quality and time standards as a team
- **KU3.** different methods of communication
- **KU4.** different types of information that colleagues might need and the importance of providing this information in an appropriate manner
- **KU5.** helping colleagues with problems, in order to meet quality and time standards as a team
- **KU6.** organisation's policies and procedures for working with colleagues and superior
- **KU7.** implications of own work on the work and schedule of others
- **KU8.** importance of understanding consequences of gender based behaviour
- **KU9.** gender based concepts, issues and legislation
- **KU10.** organisation standards and guidelines to be followed for PwD and knowledge about laws, acts and provisions defined for PwD by the statutory bodies and the right way to use them including various medical conditions associated with PwD
- **KU11.** health and safety requirements at workplace for PwD
- KU12. rights and duties at workplace with respect to PwD
- **KU13.** process of recruiting people for a particular job profile w.r.t PwD and gender
- **KU14.** various government / private schemes and benefits available for PwD and information about various institutes working for PwD to enable in providing livelihood opportunities for PwD

Generic Skills (GS)

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

- **GS1.** complete written work with attention to detail and read instructions/guidelines/procedures
- **GS2.** listen effectively and orally communicate information
- **GS3.** ask for clarification and advice from the concerned person
- **GS4.** deliver consistent and reliable service to customers
- **GS5.** check that the work meets customer requirements
- **GS6.** practice and acceptance of gender and its concepts
- GS7. develop empathy across genders and towards PwD
- **GS8.** reflect on own gender identity, gender roles and PwD issues
- **GS9.** engage and participate in discussions to end gender and disability discrimination
- **GS10.** improve and modify work practices
- **GS11.** maintain positive and effective relationships with colleagues and customers
- **GS12.** evaluate the possible solution(s) to the problem









Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact effectively with superiors	2	9	-	1
PC1. interpret work requirements from the superior and customers	1	2	-	-
PC2. report any unforeseen disruptions or delays to superiors and/or concerned person	1	2	-	1
PC3. achieve productivity and quality of work as per the company procedure	-	5	-	-
Interact effectively with colleagues and customers	13	27	-	5
PC4. explain the work requirements and the scope of work to the team	2	3	-	-
PC5. communicate information using different techniques such as face-to-face, telephonic and written means	2	4	-	1
PC6. co-ordinate with team to integrate work as per requirements	-	4	-	1
PC7. respect colleagues and customers and communicate taking care of their personal spaces	-	3	-	-
PC8. find solutions to work related difficulties with mutual agreement with colleagues and customers	3	3	-	-
PC9. resolve conflicts within the team at work to achieve smooth workflow	-	4	-	1
PC10. motivate team members to put organizational goals over individual goals	3	4	-	1
PC11. encourage the team to provide feedback on any issues facing them	3	2	-	1
Respect differences of gender and ability	15	24	-	4
PC12. ensure personal behaviour of self and team is conducted taking gender and disability of the person into consideration	2	4	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. demonstrate sensitivity towards gender and person with disability while communicating	2	3	-	1
PC14. list the different types of disabilities with their respective issues	2	3	-	1
PC15. provide help to PwD team members in overcoming any challenges faced in work	2	3	-	-
PC16. use inclusive language irrespective of the disability and the gender of the person	2	3	-	1
PC17. treat all colleagues and co-workers equally	2	3	-	-
PC18. respect personal space of colleagues and co-workers	3	5	-	1
NOS Total	30	60	-	10









National Occupational Standards (NOS) Parameters

NOS Code	TEL/N9103
NOS Name	Implement Effective Interaction at workplace
Sector	Telecom
Sub-Sector	Generic
Occupation	Generic
NSQF Level	5
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022









TEL/N9104: Manage Work, Resources and Safety at workplace

Description

This OS unit is about planning work and implementing sustainable as well as healthy practices for safety and optimal use of resources

Scope

The scope covers the following:

- Manage learning and self-direction
- Develop critical thinking and problem solving
- Perform work as per quality standards
- Maintain safe and secure working environment
- Comply with material / energy / electricity conservation practices

Elements and Performance Criteria

Manage learning and self-direction

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

- **PC1.** develop technical and personal skills to be updated with new technologies prevalent in the industry
- **PC2.** train the team such that they are able to adapt latest products/services in their working environment
- **PC3.** identify opportunities for team building workshops and motivational trainings

Develop critical thinking and problem solving

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

- **PC4.** guide the team to be accountable for timely completion of tasks
- **PC5.** analyse problems accurately to be able to correctly suggest suitable solutions to the concerned persons
- **PC6.** train the team to estimate the cause of the problem and validate

Perform work as per quality standards

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

- **PC7.** implement ways to keep immediate as well as team's work area clean and tidy
- **PC8.** maintain efficiency and productivity while performing role/responsibility
- **PC9.** supervise the team to ensure that the work is done as per the assigned and agreed requirements
- **PC10.** create schedules and rosters for the team to ensure they understand individual work requirements

Maintain safe and secure working environment

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

PC11. identify organisation's health, safety, security policies and procedures









- **PC12.** instruct team to report any identified breaches in health, safety, and security policies and procedures to the designated person
- **PC13.** manage hazards such as illness, accidents, fires or any other natural calamity safely, as per organisation's emergency procedures, within the limits of individual's authority
- **PC14.** report any hazard outside the individual's authority to the relevant person in line with organisational procedures and warn others who may be affected

Material / energy / electricity conservation practices

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

- **PC15.** implement ways to optimize usage of material including water in various tasks/activities/processes
- **PC16.** supervise the team to ensure responsible use of resources
- **PC17.** motivate the team to carry out routine cleaning of tools, machine and equipment
- **PC18.** guide the team to optimize use of electricity/energy in various tasks/activities/processes
- **PC19.** implement periodic checks of the functioning of the equipment/machine and rectify wherever required
- **PC20.** guide the team to report malfunctioning and lapses in maintenance of equipment
- **PC21.** implement ways to use electrical equipment and appliances properly

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** strategies pertinent to the field that can be used to pursue an advancement of skills
- **KU2.** key performance indicators for the new tasks
- **KU3.** feedback processes and formats
- **KU4.** timelines and goals as well as their relevance to work allocated
- **KU5.** importance of quality and timely delivery of the product/service
- **KU6.** layout of the workstation and equipment used
- **KU7.** escalation matrix and its importance, especially in case of emergencies
- **KU8.** ways of time and cost management
- **KU9.** rules/regulation for maintaining health and safety at workplace
- **KU10.** meaning of hazard, different types of health and safety hazards found in the workplace, risks and threats based on the nature of work
- **KU11.** procedures to report breaches in health, safety and security
- **KU12.** ways of managing resources and material efficiently
- **KU13.** ways to recognize common electrical problems and common practices of conserving electricity

Generic Skills (GS)

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

GS1. explore various pathways to expand one's own learning skills and abilities









- **GS2.** analyse feedback for improving one's way of working
- **GS3.** interpret feedback from superiors in a constructive way
- **GS4.** identify the root cause of problems
- **GS5.** understand the problem by asking significant questions to clarify the various points of view on the problem
- **GS6.** seek clarifications from superior about the job requirement
- **GS7.** work in a team with full coordination of team members
- **GS8.** read instructions/guidelines and Standard Operating Practices (SOP) documents
- **GS9.** complete tasks efficiently and accurately within stipulated time
- **GS10.** record data in statutory documents relevant to safety and hygiene
- **GS11.** escalate/refer all anomalies to the concerned persons
- **GS12.** identify the most suitable course of action for completing the task using provided resources









Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Manage learning and self-direction	4	5	-	-
PC1. develop technical and personal skills to be updated with new technologies prevalent in the industry	2	1	-	-
PC2. train the team such that they are able to adapt latest products/services in their working environment	1	2	-	-
PC3. identify opportunities for team building workshops and motivational trainings	1	2	-	-
Develop critical thinking and problem solving	4	7	-	-
PC4. guide the team to be accountable for timely completion of tasks	2	3	-	-
PC5. analyse problems accurately to be able to correctly suggest suitable solutions to the concerned persons	1	2	-	-
PC6. train the team to estimate the cause of the problem and validate	1	2	-	-
Perform work as per quality standards	5	9	-	4
PC7. implement ways to keep immediate as well as team's work area clean and tidy	1	2	-	-
PC8. maintain efficiency and productivity while performing role/responsibility	1	2	-	2
PC9. supervise the team to ensure that the work is done as per the assigned and agreed requirements	1	2	-	1
PC10. create schedules and rosters for the team to ensure they understand individual work requirements	2	3	-	1
Maintain safe and secure working environment	12	13	-	2
PC11. identify organisation's health, safety, security policies and procedures	3	3	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. instruct team to report any identified breaches in health, safety, and security policies and procedures to the designated person	3	3	-	-
PC13. manage hazards such as illness, accidents, fires or any other natural calamity safely, as per organisation's emergency procedures, within the limits of individual's authority	3	4	-	1
PC14. report any hazard outside the individual's authority to the relevant person in line with organisational procedures and warn others who may be affected	3	3	-	1
Material / energy / electricity conservation practices	15	16	-	4
PC15. implement ways to optimize usage of material including water in various tasks/activities/processes	1	2	-	1
PC16. supervise the team to ensure responsible use of resources	2	2	-	1
PC17. motivate the team to carry out routine cleaning of tools, machine and equipment	2	2	-	1
PC18. guide the team to optimize use of electricity/energy in various tasks/activities/processes	3	4	-	-
PC19. implement periodic checks of the functioning of the equipment/machine and rectify wherever required	2	2	-	1
PC20. guide the team to report malfunctioning and lapses in maintenance of equipment	3	2	-	-
PC21. implement ways to use electrical equipment and appliances properly	2	2	-	-
NOS Total	40	50	-	10









National Occupational Standards (NOS) Parameters

NOS Code	TEL/N9104
NOS Name	Manage Work, Resources and Safety at workplace
Sector	Telecom
Sub-Sector	Generic
Occupation	Generic
NSQF Level	5
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022









DGT/VSQ/N0103: Employability Skills (90 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.** understand the significance of employability skills in meeting the current job market requirement and future of work
- **PC2.** identify and explore learning and employability relevant portals
- **PC3.** research about the different industries, job market trends, latest skills required and the available opportunities

Constitutional values - Citizenship

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

- **PC4.** 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.
- **PC5.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC6. recognize the significance of 21st Century Skills for employment









- **PC7.** 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
- **PC8.** adopt a continuous learning mindset for personal and professional development Basic English Skills

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

- **PC9.** use basic English for everyday conversation in different contexts, in person and over the telephone
- **PC10.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- **PC11.** 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:

- PC12. identify career goals based on the skills, interests, knowledge, and personal attributes
- PC13. prepare a career development plan with short- and long-term goals

Communication Skills

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

- **PC14.** follow verbal and non-verbal communication etiquette while communicating in professional and public settings
- **PC15.** use active listening techniques for effective communication
- **PC16.** communicate in writing using appropriate style and format based on formal or informal requirements
- **PC17.** work collaboratively with others in a team

Diversity & Inclusion

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

- PC18. communicate and behave appropriately with all genders and PwD
- **PC19.** 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:

- **PC20.** identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.
- **PC21.** carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook
- **PC22.** identify common components of salary and compute income, expenses, taxes, investments
- **PC23.** 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:

- **PC24.** operate digital devices and use their features and applications securely and safely
- **PC25.** carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.
- **PC26.** display responsible online behaviour while using various social media platforms









- PC27. create a personal email account, send and process received messages as per requirement
- **PC28.** carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications
- **PC29.** utilize virtual collaboration tools to work effectively

Entrepreneurship

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

- **PC30.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- **PC31.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- **PC32.** 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:

- PC33. identify different types of customers and ways to communicate with them
- PC34. identify and respond to customer requests and needs in a professional manner
- **PC35.** use appropriate tools to collect customer feedback
- **PC36.** follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

- **PC37.** create a professional Curriculum vitae (Résumé)
- **PC38.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- **PC39.** apply to identified job openings using offline /online methods as per requirement
- **PC40.** answer questions politely, with clarity and confidence, during recruitment and selection
- **PC41.** 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.** components of salary and 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
- **KU16.** use applications such as word processors, spreadsheets etc.
- **KU17.** how to identify business opportunities
- **KU18.** types and needs of customers
- **KU19.** how to apply for a job and prepare for an interview
- **KU20.** 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 in English and other languages
- GS2. communicate effectively using appropriate language in formal and informal settings
- **GS3.** behave politely and appropriately with all to maintain effective work relationship
- **GS4.** how to work in a virtual mode, using various technological platforms
- **GS5.** perform calculations efficiently
- **GS6.** solve problems effectively
- **GS7.** pay attention to details
- **GS8.** manage time efficiently
- GS9. maintain hygiene and sanitization to avoid infection









Assessment Criteria

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 current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
Constitutional values - Citizenship	1	1	-	-
PC4. 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.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	1	3	-	-
PC6. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC7. 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	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
Basic English Skills	3	4	-	-
PC9. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC11. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	1	2	-	-
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-	-
Communication Skills	2	2	-	-
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
PC15. use active listening techniques for effective communication	-	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	1	1	-	-
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	2	3	-	-
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	3	5	-	-
PC24. operate digital devices and use their features and applications securely and safely	-	-	-	-
PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
PC26. display responsible online behaviour while using various social media platforms	-	-	-	-
PC27. create a personal email account, send and process received messages as per requirement	-	-	-	-
PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
PC29. utilize virtual collaboration tools to work effectively	-	-	-	-
Entrepreneurship	2	3	-	-
PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	1	2	-	-
PC33. identify different types of customers and ways to communicate with them	-	-	-	-









Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC35. use appropriate tools to collect customer feedback	-	-	-	-
PC36. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	2	3	-	-
PC37. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-









National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

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.









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
TEL/N6316.Prepare for the Delivery of 5G Cloud RAN Project	35	50	-	15	100	18
TEL/N6317.Use the appropriate hardware platform and environment for 5G Cloud RAN	30	55	-	15	100	19
TEL/N6318.Manage orchestration, automation, and RAN programmability	30	55	-	15	100	18
TEL/N9103.Implement Effective Interaction at workplace	30	60	-	10	100	18
TEL/N9104.Manage Work, Resources and Safety at workplace	40	50	-	10	100	18
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	9
Total	185	300	-	65	550	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.