Qualification Pack

IoT Installation Solution Architect

QP Code: TEL/Q6216

Version: 3.0

NSQF Level: 5

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Qualification Pack

TEL/Q6216: IoT Installation Solution Architect

Brief Job Description

The individual in this job is responsible for conducting the site survey for layout, planning and designing for installation and deployment of IoT sensors/devices, IoT gateways and access layer connectivity in IoT ecosystem to suggest and implement the best IoT solution for the business model.

Personal Attributes

The individual needs to have the ability to upgrade skills with changing technologies, work in a team, multitask and track multiple projects simultaneously with full dedication and willingness. The individual should have generic communication and leadership skills, attention to details, excellent problem-solving capabilities, strong quantitative abilities and good interpersonal skills. The individual with skills like innovation, customer focus, collaboration, value creation and professionalism would have added advantage in this job role.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. TEL/N6260: Perform Market Analysis on Application of IoT
2. TEL/N6261: Supervise in Installation IoT Devices and System
3. TEL/N6262: Administer Acceptance Testing and Site Optimization Activities
4. TEL/N6280: Maintain Secure IoT Network Infrastructure
5. TEL/N9103: Implement Effective Interaction at workplace
6. TEL/N9104: Manage Work, Resources and Safety at workplace
7. DGT/VSQ/N0102: Employability Skills (60 Hours)

Qualification Pack (QP) Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
Country	India

Qualification Pack

NSQF Level	5
Credits	18
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.6216
Minimum Educational Qualification & Experience	Completed 2nd year of UG (UG Diploma) (of 3-year/ 4-years UG) OR Completed 2nd year diploma after 12th OR 12th grade Pass with 2 Years of experience Relevant Experience OR Previous relevant Qualification of NSQF Level (4.5) with 1.5 years of experience Relevant Experience OR Previous relevant Qualification of NSQF Level (4) with 3 Years of experience Relevant Experience
Minimum Level of Education for Training in School	12th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	30/06/2028
NSQC Approval Date	19/08/2025
Version	3.0
Reference code on NQR	QG-05-TL-00470-2025-V2-TSSC
NQR Version	2

TEL/N6260: Perform Market Analysis on Application of IoT

Description

This OS unit analyzes and evaluates market opportunities for IoT applications, gathering industry trends, segmenting markets, assessing competitors, understanding customer needs, and creating insights for strategic decision-making.

Scope

The scope covers the following :

- Market research and data collection
- Competitor and trend analysis
- Customer need mapping and value proposition identification
- Reporting, recommendations, collaboration, and compliance

Elements and Performance Criteria

Market research and data collection

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

PC1. identify relevant IoT domains (e.g., smart home, industrial IoT, health tech) and collect secondary data from industry reports, white papers, publications, and digital sources.

PC2. conduct primary research by designing surveys, interviews, or questionnaires to capture end-user needs, market gaps, and technology adoption barriers.

PC3. extract and organize relevant data using appropriate tools (Excel, Google Sheets, databases) for effective analysis and interpretation.

PC4. apply classification techniques to segment IoT markets based on factors like industry type, geography, application, and customer size.

Competitor and trend analysis

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

PC5. benchmark existing IoT solutions and vendors in terms of features, pricing, performance, scalability, and support.

PC6. identify current trends in IoT technologies, such as edge computing, AI integration, 5G connectivity, and regulatory developments.

PC7. analyze SWOT (Strengths, Weaknesses, Opportunities, Threats) of top competitors to assess positioning and market entry points.

PC8. prepare visual representations (charts, heat maps, graphs) of market shares, growth rates, and emerging trends using tools like PowerPoint, Canva, or Tableau.

Customer need mapping and value proposition identification

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

PC9. interpret research findings to identify latent needs and unserved demands in the target market.

PC10. map customer pain points with potential IoT applications to determine areas of maximum value creation.

PC11. recommend features, use cases, or deployment strategies that align with customer needs and business feasibility.

Reporting, recommendations, collaboration, and compliance

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

PC12. summarize market insights in a structured format, highlighting key findings, market gaps, and opportunity areas.

PC13. draft detailed market analysis reports with strategic recommendations for product planning, investment decisions, and potential partnerships.

PC14. present findings and insights effectively to stakeholders using storytelling techniques and data-backed arguments for clarity and impact.

PC15. coordinate with internal teams such as product development, marketing, and strategy to ensure market insights are aligned with business goals.

PC16. adhere to ethical standards, data privacy norms, and organizational protocols throughout the process of conducting and presenting market analysis.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational policies on market research, data sharing, and confidentiality.

KU2. roles and responsibilities of product, marketing, and strategy teams.

KU3. documentation procedures for research findings, reports, and presentations.

KU4. compliance norms regarding customer data privacy and third-party data usage.

KU5. organizational vision and how IoT solutions align with business objectives.

KU6. fundamentals of IoT architecture and applications across industries and technologies to enable them.

KU7. current technologies enabling IoT (e.g., sensors, cloud, AI, edge computing).

KU8. sources and techniques of primary and secondary market research.

KU9. methods of data segmentation and customer profiling.

KU10. approaches for competitor benchmarking and SWOT analysis.

KU11. tools and platforms used for data analysis, visualization, and reporting.

Generic Skills (GS)

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

GS1. read and interpret industry reports, market data, and IoT-related documentation.

GS2. communicate findings and insights effectively with team members, clients, and stakeholders.

GS3. stay updated on current trends, innovations, and emerging technologies in the IoT domain.

GS4. manage research timelines and project schedules to deliver timely market analysis.

GS5. identify market opportunities and challenges through logical analysis and interpretation.

GS6. apply critical thinking to evaluate potential use cases and ROI of IoT applications across industries.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Market research and data collection	**20**	**12**	**-**	**2**
PC1. identify relevant IoT domains (e.g., smart home, industrial IoT, health tech) and collect secondary data from industry reports, white papers, publications, and digital sources.	5	3	-	1
PC2. conduct primary research by designing surveys, interviews, or questionnaires to capture end-user needs, market gaps, and technology adoption barriers.	5	3	-	-
PC3. extract and organize relevant data using appropriate tools (Excel, Google Sheets, databases) for effective analysis and interpretation.	5	2	-	1
PC4. apply classification techniques to segment IoT markets based on factors like industry type, geography, application, and customer size.	5	4	-	-
Competitor and trend analysis	**20**	**10**	**-**	**2**
PC5. benchmark existing IoT solutions and vendors in terms of features, pricing, performance, scalability, and support.	5	2	-	-
PC6. identify current trends in IoT technologies, such as edge computing, AI integration, 5G connectivity, and regulatory developments.	5	2	-	-
PC7. analyze SWOT (Strengths, Weaknesses, Opportunities, Threats) of top competitors to assess positioning and market entry points.	5	2	-	1
PC8. prepare visual representations (charts, heat maps, graphs) of market shares, growth rates, and emerging trends using tools like PowerPoint, Canva, or Tableau.	5	4	-	1
Customer need mapping and value proposition identification	**5**	**10**	**-**	**2**
PC9. interpret research findings to identify latent needs and unserved demands in the target market.	2	5	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. map customer pain points with potential IoT applications to determine areas of maximum value creation.	2	3	-	-
PC11. recommend features, use cases, or deployment strategies that align with customer needs and business feasibility.	1	2	-	1
Reporting, recommendations, collaboration, and compliance	**5**	**8**	**-**	**4**
PC12. summarize market insights in a structured format, highlighting key findings, market gaps, and opportunity areas.	1	2	-	1
PC13. draft detailed market analysis reports with strategic recommendations for product planning, investment decisions, and potential partnerships.	1	2	-	1
PC14. present findings and insights effectively to stakeholders using storytelling techniques and data-backed arguments for clarity and impact.	1	1	-	1
PC15. coordinate with internal teams such as product development, marketing, and strategy to ensure market insights are aligned with business goals.	1	1	-	1
PC16. adhere to ethical standards, data privacy norms, and organizational protocols throughout the process of conducting and presenting market analysis.	1	2	-	-
NOS Total	**50**	**40**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6260
NOS Name	Perform Market Analysis on Application of IoT
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	4
Version	3.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

Qualification Pack

TEL/N6261: Supervise in Installation IoT Devices and System

Description

The OS oversees IoT device installation, ensuring compliance with technical specifications, infrastructure readiness, safety standards, and integration requirements, coordinating with field engineers, validating configurations, managing resources, and supporting system commissioning.

Scope

The scope covers the following :

- Pre-installation Planning and Site Readiness
- Team Coordination and Resource Allocation
- Installation Oversight and Configuration
- System Integration and Testing

Elements and Performance Criteria

Pre-installation planning and site readiness

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

PC1. verify site preparedness by checking for adequate space, ventilation, environmental factors, power supply, and network connectivity to support IoT device deployment.

PC2. inspect physical and network infrastructure to ensure compatibility with IoT systems and resolve discrepancies before installation.

PC3. supervise the delivery, unpacking, and safe storage of IoT components and peripherals to prevent damage or loss.

Team coordination and resource allocation

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

PC4. allocate tasks to technicians and guide them through wiring, mounting, and assembling activities based on installation blueprints or system diagrams.

PC5. brief the team on safety procedures, tool usage, and installation protocols, ensuring compliance with electrical and electronic standards.

PC6. maintain a checklist of required materials, tools, and documentation to avoid delays in installation.

Installation oversight and configuration

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

PC7. oversee the installation of sensors, controllers, gateways, and end-user devices as per manufacturer guidelines and site layout.

PC8. validate electrical connections, device positioning, and sensor calibration before initiating the system configuration.

PC9. guide the team to perform firmware updates and basic device configuration using the designated user interface or setup software.

System integration and testing

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

PC10. ensure seamless integration of installed devices with backend systems, cloud platforms, or edge devices, following architecture design.

PC11. supervise system testing, including connectivity checks, data flow validation, device discovery, and network performance.

PC12. identify and resolve minor configuration issues or escalate critical problems to the technical support or R&D team.

Documentation and handover

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

PC13. maintain installation records including device inventory, configuration files, network settings, and test reports.

PC14. document deviations from the original plan and suggest corrective actions or improvements.

PC15. hand over the installed system to the operations or maintenance team with complete documentation and walkthrough.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. company policies related to installation, safety, and reporting.

KU2. standard operating procedures for equipment handling and site coordination.

KU3. inter-department collaboration between IT, electrical, civil, and safety teams.

KU4. quality control processes for IoT installation projects.

KU5. escalation matrix and decision-making authority.

KU6. basic architecture of IoT systems, including device, network, and cloud layers.

KU7. types of IoT devices (e.g., sensors, actuators, controllers, gateways) and their functions.

KU8. electrical wiring and network cabling practices relevant to IoT deployments.

KU9. tools and software used for device setup, configuration, and firmware update.

KU10. integration methods including MQTT, REST API, HTTP, and relevant protocols.

KU11. testing tools and procedures for validating device performance and network connectivity.

KU12. documentation techniques and best practices for project tracking and handover.

KU13. basic cybersecurity precautions during IoT installation (e.g., secure credentials, firmware integrity).

Generic Skills (GS)

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

GS1. read and interpret technical manuals, wiring diagrams, and installation guidelines.

GS2. communicate effectively with installation teams, vendors, and supervisors.

GS3. stay updated on IoT hardware, software protocols, and installation standards.

GS4. manage time and resources to ensure timely and accurate installation.

GS5. identify and resolve issues related to device compatibility, connectivity, or setup.

GS6. apply critical thinking to ensure installation quality, system integrity, and compliance with safety norms.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Pre-installation planning and site readiness	**6**	**12**	**-**	**2**
PC1. verify site preparedness by checking for adequate space, ventilation, environmental factors, power supply, and network connectivity to support IoT device deployment.	2	4	-	1
PC2. inspect physical and network infrastructure to ensure compatibility with IoT systems and resolve discrepancies before installation.	2	4	-	-
PC3. supervise the delivery, unpacking, and safe storage of IoT components and peripherals to prevent damage or loss.	2	4	-	1
Team coordination and resource allocation	**6**	**12**	**-**	**2**
PC4. allocate tasks to technicians and guide them through wiring, mounting, and assembling activities based on installation blueprints or system diagrams.	2	4	-	-
PC5. brief the team on safety procedures, tool usage, and installation protocols, ensuring compliance with electrical and electronic standards.	2	4	-	1
PC6. maintain a checklist of required materials, tools, and documentation to avoid delays in installation.	2	4	-	1
Installation oversight and configuration	**6**	**12**	**-**	**2**
PC7. oversee the installation of sensors, controllers, gateways, and end-user devices as per manufacturer guidelines and site layout.	2	4	-	1
PC8. validate electrical connections, device positioning, and sensor calibration before initiating the system configuration.	2	4	-	1
PC9. guide the team to perform firmware updates and basic device configuration using the designated user interface or setup software.	2	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
System integration and testing	**6**	**12**	**-**	**3**
PC10. ensure seamless integration of installed devices with backend systems, cloud platforms, or edge devices, following architecture design.	2	4	-	1
PC11. supervise system testing, including connectivity checks, data flow validation, device discovery, and network performance.	2	4	-	1
PC12. identify and resolve minor configuration issues or escalate critical problems to the technical support or R&D team.	2	4	-	1
Documentation and handover	**6**	**12**	**-**	**1**
PC13. maintain installation records including device inventory, configuration files, network settings, and test reports.	2	4	-	-
PC14. document deviations from the original plan and suggest corrective actions or improvements.	2	4	-	-
PC15. hand over the installed system to the operations or maintenance team with complete documentation and walkthrough.	2	4	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6261
NOS Name	Supervise in Installation IoT Devices and System
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	3
Version	3.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

TEL/N6262: Administer Acceptance Testing and Site Optimization Activities

Description

The OS oversees acceptance testing and site optimization for IoT systems, ensuring they meet client and organizational standards. They prepare test protocols, execute validation, identify non-conformities, and recommend optimizations.

Scope

The scope covers the following :

- Planning and preparation for acceptance testing
- Executing acceptance testing
- Defect identification and reporting
- Site optimization and performance tuning
- Documentation, sign-off, and handover

Elements and Performance Criteria

Planning and preparation for acceptance testing

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

PC1. review project specifications, acceptance criteria, and system documentation to understand expected outcomes for site testing.

PC2. coordinate with installation, integration, and quality teams to schedule acceptance testing without disrupting operations.

PC3. prepare testing tools, checklists, and verification protocols required to conduct system validation efficiently and safely.

Executing acceptance testing

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

PC4. conduct functional, performance, and interoperability tests to verify IoT device behaviour and system response under real-world conditions.

PC5. validate connectivity, data integrity, latency, power efficiency, and security configurations as per project requirements.

PC6. record all test results, observations, and deviations systematically for review and documentation.

Defect identification and reporting

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

PC7. identify and document any failures, bugs, or non-conformities found during testing using standardized formats.

PC8. escalate critical issues or discrepancies to the engineering or vendor team for resolution.

PC9. recommend corrective actions or changes in configuration, firmware, or deployment strategy based on test results.

Site optimization and performance tuning

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

PC10. analyze system logs, signal strength, latency data, and throughput to identify areas needing optimization.

PC11. fine-tune device settings, network parameters, or sensor placement to improve system efficiency and reliability.

PC12. revalidate performance post-optimization to ensure improvements align with predefined thresholds.

Documentation, sign-off, and handover

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

PC13. compile detailed acceptance test reports, optimization logs, and updated site diagrams for review.

PC14. obtain formal sign-off from clients or quality teams after successful acceptance and optimization.

PC15. support handover by providing manuals, training, and documentation to operations or maintenance teams.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational policies, procedures, and quality standards for acceptance testing and deployment sign-off.

KU2. types of acceptance tests such as functional, performance, stress, regression, and interoperability testing.

KU3. test planning elements including test cases, test scripts, data sets, and environment preparation.

KU4. parameters for evaluating IoT systems such as data accuracy, latency, uptime, signal strength, and power efficiency.

KU5. techniques for identifying, logging, and categorizing bugs or non-conformities during site testing.

KU6. escalation procedures and stakeholder roles for issue resolution and testing sign-offs.

KU7. tools and utilities used for testing, monitoring, and logging performance of IoT devices and networks (e.g., Wireshark, Postman, MQTT.fx).

KU8. optimization techniques such as device reconfiguration, antenna alignment, firmware tuning, and sensor placement.

KU9. compliance requirements and performance benchmarks set by clients or regulatory bodies.

KU10. documentation practices for creating test reports, defect logs, optimization records, and handover manuals.

Generic Skills (GS)

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

GS1. read and interpret test cases, system documentation, technical specifications, and client acceptance criteria.

GS2. write structured test reports, defect logs, and technical summaries clearly and concisely.

GS3. communicate effectively with cross-functional teams, clients, and supervisors to coordinate test plans and report findings.

GS4. use logical reasoning and problem-solving to diagnose performance issues and recommend optimizations.

GS5. plan and manage time efficiently to conduct testing and optimization within project deadlines.

GS6. demonstrate precision in test measurements, result logging, and device configuration.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Planning and preparation for acceptance testing	**6**	**12**	**-**	**2**
PC1. review project specifications, acceptance criteria, and system documentation to understand expected outcomes for site testing.	2	4	-	1
PC2. coordinate with installation, integration, and quality teams to schedule acceptance testing without disrupting operations.	2	4	-	-
PC3. prepare testing tools, checklists, and verification protocols required to conduct system validation efficiently and safely.	2	4	-	1
Executing acceptance testing	**6**	**12**	**-**	**2**
PC4. conduct functional, performance, and interoperability tests to verify IoT device behaviour and system response under real-world conditions.	2	4	-	-
PC5. validate connectivity, data integrity, latency, power efficiency, and security configurations as per project requirements.	2	4	-	1
PC6. record all test results, observations, and deviations systematically for review and documentation.	2	4	-	1
Defect identification and reporting	**6**	**12**	**-**	**2**
PC7. identify and document any failures, bugs, or non-conformities found during testing using standardized formats.	2	4	-	1
PC8. escalate critical issues or discrepancies to the engineering or vendor team for resolution.	2	4	-	1
PC9. recommend corrective actions or changes in configuration, firmware, or deployment strategy based on test results.	2	4	-	-
Site optimization and performance tuning	**6**	**12**	**-**	**3**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. analyze system logs, signal strength, latency data, and throughput to identify areas needing optimization.	2	4	-	1
PC11. fine-tune device settings, network parameters, or sensor placement to improve system efficiency and reliability.	2	4	-	1
PC12. revalidate performance post-optimization to ensure improvements align with predefined thresholds.	2	4	-	1
Documentation, sign-off, and handover	**6**	**12**	**-**	**1**
PC13. compile detailed acceptance test reports, optimization logs, and updated site diagrams for review.	2	4	-	-
PC14. obtain formal sign-off from clients or quality teams after successful acceptance and optimization.	2	4	-	-
PC15. support handover by providing manuals, training, and documentation to operations or maintenance teams.	2	4	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6262
NOS Name	Administer Acceptance Testing and Site Optimization Activities
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	3
Credits	3
Version	3.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

TEL/N6280: Maintain Secure IoT Network Infrastructure

Description

This OS focuses on secure, scalable, and efficient IoT network infrastructure, evaluating application requirements, selecting appropriate technologies, ensuring data protection, mitigating risks, and documenting architecture compliance.

Scope

The scope covers the following :

- Requirement analysis and planning
- Security architecture and configuration
- Risk mitigation and compliance
- Testing, optimization, and documentation

Elements and Performance Criteria

Requirement analysis and planning

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

PC1. assess device and application-specific networking needs such as range, latency, bandwidth, and number of nodes.

PC2. select appropriate communication technologies (e.g., Wi-Fi, LoRaWAN, Zigbee, NB-IoT, Ethernet) based on deployment conditions and data requirements.

PC3. define IP addressing schemes, subnetting plans, and device naming conventions to ensure network scalability and manageability.

PC4. assist in designing logical and physical network topology (e.g., star, mesh, hybrid) to suit system architecture and operational efficiency.

Security architecture and configuration

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

PC5. implement encryption protocols (e.g., TLS, IPSec, WPA3) and secure tunneling to protect data during transmission.

PC6. configure firewalls, VLANs, and access control policies to restrict unauthorized access and isolate IoT segments from general networks.

PC7. deploy authentication mechanisms such as certificates, tokens, or key-based access for devices and gateways.

PC8. integrate intrusion detection/prevention systems (IDS/IPS) and secure update mechanisms to maintain system integrity.

Risk mitigation and compliance

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

PC9. identify potential vulnerabilities such as open ports, weak credentials, or outdated firmware and apply corrective configurations.

PC10. ensure adherence to regulatory requirements and data protection standards like ISO 27001, NIST IoT, and GDPR.

PC11. develop contingency and recovery plans for network failures, data breaches, or cyberattacks.

Testing, optimization, and documentation

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

PC12. test network for performance indicators such as throughput, signal strength, latency, and packet loss under various load conditions.

PC13. simulate cyber-threat scenarios (e.g., spoofing, sniffing, DDoS) to validate security mechanisms.

PC14. document the entire network architecture, device configurations, security protocols, and compliance mappings for audit readiness.

PC15. prepare user manuals and technical documentation for use by support and maintenance teams.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational IT and network security policies, standards, and escalation protocols.

KU2. IoT-specific communication technologies and protocols (Wi-Fi, Zigbee, LoRaWAN, NB-IoT, BLE, MQTT, CoAP, HTTP).

KU3. IP addressing, subnetting, VLANs, routing techniques, NAT, and QoS in IoT environments.

KU4. encryption techniques and secure communication protocols (TLS, SSL, WPA3, IPSec).

KU5. firewall configurations, access control lists (ACLs), and zero-trust network segmentation.

KU6. vulnerabilities common to IoT systems and strategies for mitigation (e.g., firmware integrity, secure boot, OTA updates).

KU7. compliance and regulatory standards like ISO 27001, GDPR, NIST for IoT networks.

KU8. tools for network simulation, penetration testing, performance monitoring, and security validation.

KU9. documentation practices, audit preparation, and handover protocols for network systems.

Generic Skills (GS)

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

GS1. read and interpret network architecture diagrams, security policies, and protocol specifications.

GS2. communicate network design requirements and security considerations with team members and stakeholders.

GS3. stay updated on the latest IoT security threats, encryption standards, and network protocols.

GS4. plan and manage tasks to ensure timely deployment of secure and scalable network infrastructure.

GS5. identify and mitigate potential vulnerabilities in network design and data transmission.

GS6. apply critical thinking to balance performance, scalability, and security in network infrastructure design.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Requirement analysis and planning	**8**	**16**	**-**	**2**
PC1. assess device and application-specific networking needs such as range, latency, bandwidth, and number of nodes.	2	4	-	-
PC2. select appropriate communication technologies (e.g., Wi-Fi, LoRaWAN, Zigbee, NB-IoT, Ethernet) based on deployment conditions and data requirements.	2	4	-	-
PC3. define IP addressing schemes, subnetting plans, and device naming conventions to ensure network scalability and manageability.	2	4	-	1
PC4. assist in designing logical and physical network topology (e.g., star, mesh, hybrid) to suit system architecture and operational efficiency.	2	4	-	1
Security architecture and configuration	**8**	**16**	**-**	**3**
PC5. implement encryption protocols (e.g., TLS, IPSec, WPA3) and secure tunneling to protect data during transmission.	2	4	-	1
PC6. configure firewalls, VLANs, and access control policies to restrict unauthorized access and isolate IoT segments from general networks.	2	4	-	-
PC7. deploy authentication mechanisms such as certificates, tokens, or key-based access for devices and gateways.	2	4	-	1
PC8. integrate intrusion detection/prevention systems (IDS/IPS) and secure update mechanisms to maintain system integrity.	2	4	-	1
Risk mitigation and compliance	**6**	**12**	**-**	**1**
PC9. identify potential vulnerabilities such as open ports, weak credentials, or outdated firmware and apply corrective configurations.	2	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. ensure adherence to regulatory requirements and data protection standards like ISO 27001, NIST IoT, and GDPR.	2	4	-	-
PC11. develop contingency and recovery plans for network failures, data breaches, or cyberattacks.	2	4	-	1
Testing, optimization, and documentation	**8**	**16**	**-**	**4**
PC12. test network for performance indicators such as throughput, signal strength, latency, and packet loss under various load conditions.	2	4	-	1
PC13. simulate cyber-threat scenarios (e.g., spoofing, sniffing, DDoS) to validate security mechanisms.	2	4	-	1
PC14. document the entire network architecture, device configurations, security protocols, and compliance mappings for audit readiness.	2	4	-	1
PC15. prepare user manuals and technical documentation for use by support and maintenance teams.	2	4	-	1
NOS Total	**30**	**60**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6280
NOS Name	Maintain Secure IoT Network Infrastructure
Sector	Telecom
Sub-Sector	
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	4
Version	1.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

TEL/N9103: Implement Effective Interaction at workplace

Description

This OS unit is about communicating with superiors, colleagues, customers, and other stakeholders in a respectful, inclusive, and productive manner.

Scope

The scope covers the following :

- Interact effectively with supervisors and stakeholders
- Collaborate efficiently with colleagues and customers
- Practice inclusive communication at workplace

Elements and Performance Criteria

Interact effectively with supervisors and stakeholders

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

PC1. interpret and clarify work requirements and expectations from supervisors or stakeholders

PC2. report any delays, risks, or unforeseen disruptions to the appropriate authority promptly

PC3. deliver work outputs as per quality, productivity, and timeline standards defined by the organisation.

Collaborate efficiently with colleagues and customers

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

PC4. share work requirements and expectations clearly with team members

PC5. communicate using appropriate channels (e.g., face-to-face, phone, e-mail, video conferencing, chat) based on context

PC6. coordinate effectively with others to integrate efforts and achieve collective goals

PC7. respect colleagues' and customers' personal and professional boundaries

PC8. collaboratively solve work-related issues or bottlenecks with mutual consent

PC9. resolve interpersonal or operational conflicts within the team professionally and constructively

PC10. motivate team members to align with organisational objectives over individual interests

PC11. encourage two-way feedback and constructive dialogue within the team.

Practice inclusive communication at workplace

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

PC12. ensure own and team's conduct reflects respect for gender, disability, and diversity in all interactions

PC13. communicate with sensitivity toward the needs of persons with disabilities (PwD) and across gender identities

PC14. demonstrate awareness of different types of disabilities and their implications in workplace communication

PC15. assist team members with disabilities in overcoming barriers to work

PC16. use inclusive and respectful language in all verbal and written communication
PC17. treat all individuals with dignity and fairness, avoiding bias or discrimination
PC18. respect others' personal space, cultural preferences, and accessibility needs.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. importance of effective communication and team collaboration in achieving workplace goals
KU2. modes and tools of communication for various scenarios (in-person, virtual, asynchronous)
KU3. organisational processes for task assignment, reporting, and escalation
KU4. impact of one's work on the team's workflow and deliverables
KU5. strategies to handle team dynamics and conflict resolution
KU6. principles of inclusive behaviour and workplace diversity
KU7. basic concepts of gender sensitivity, unconscious bias, and respectful workplace behaviour
KU8. categories of disabilities and associated workplace considerations
KU9. rights, entitlements, and accommodations applicable to PwDs under national and organisational policies
KU10. health, safety, and digital accessibility requirements for inclusive workplaces
KU11. government and private schemes supporting employment and inclusion of PwDs
KU12. practices to encourage inclusive recruitment and professional growth

Generic Skills (GS)

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

GS1. communicate clearly and respectfully using verbal, non-verbal, and written modes.
GS2. maintain professionalism in customer and colleague interactions
GS3. identify, address, or escalate interpersonal challenges constructively
GS4. impact of reflect on one's biases, assumptions, and inclusive practices
GS5. empathise with and advocate for individuals from underrepresented groups
GS6. promote collaboration and resolve conflicts through dialogue and consensus
GS7. engage in continuous improvement of interpersonal and team dynamics
GS8. use digital communication tools responsibly and inclusively in a hybrid work setting.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact effectively with supervisors and stakeholders	**5**	**10**	**-**	**1**
PC1. interpret and clarify work requirements and expectations from supervisors or stakeholders	2	3	-	-
PC2. report any delays, risks, or unforeseen disruptions to the appropriate authority promptly	2	4	-	1
PC3. deliver work outputs as per quality, productivity, and timeline standards defined by the organisation.	1	3	-	-
Collaborate efficiently with colleagues and customers	**14**	**26**	**-**	**6**
PC4. share work requirements and expectations clearly with team members	2	3	-	1
PC5. communicate using appropriate channels (e.g., face-to-face, phone, e-mail, video conferencing, chat) based on context	2	4	-	1
PC6. coordinate effectively with others to integrate efforts and achieve collective goals	2	3	-	-
PC7. respect colleagues' and customers' personal and professional boundaries	2	3	-	1
PC8. collaboratively solve work-related issues or bottlenecks with mutual consent	2	3	-	1
PC9. resolve interpersonal or operational conflicts within the team professionally and constructively	1	3	-	1
PC10. motivate team members to align with organisational objectives over individual interests	2	4	-	-
PC11. encourage two-way feedback and constructive dialogue within the team.	1	3	-	1
Practice inclusive communication at workplace	**11**	**24**	**-**	**3**
PC12. ensure own and team's conduct reflects respect for gender, disability, and diversity in all interactions	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. communicate with sensitivity toward the needs of persons with disabilities (PwD) and across gender identities	2	4	-	1
PC14. demonstrate awareness of different types of disabilities and their implications in workplace communication	1	4	-	-
PC15. assist team members with disabilities in overcoming barriers to work	1	4	-	-
PC16. use inclusive and respectful language in all verbal and written communication	2	3	-	-
PC17. treat all individuals with dignity and fairness, avoiding bias or discrimination	1	3	-	1
PC18. respect others' personal space, cultural preferences, and accessibility needs.	2	3	-	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	3.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

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

Description

This OS unit is about applying sustainable practices, maintaining workplace safety, and ensuring optimal utilisation of resources to meet quality standards and deadlines in a dynamic work environment.

Scope

The scope covers the following :

- Manage learning and self-direction
- Foster critical thinking and problem-solving
- Perform work as per quality and performance standards
- Maintain a safe, secure, and healthy workplace
- Implement sustainable and efficient resource usage practices

Elements and Performance Criteria

Manage learning and self-direction

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

PC1. identify individual and team training needs relevant to current and emerging job roles

PC2. participate in learning activities and skill development programs

PC3. encourage team participation in professional development, cross-functional knowledge sharing, and upskilling initiatives.

Foster critical thinking and problem-solving

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

PC4. guide team members to analyse problems logically and identify root causes

PC5. suggest appropriate and timely solutions to operational challenges

PC6. enable the team to evaluate outcomes of decisions and refine processes accordingly.

Perform work as per quality and performance standards

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

PC7. organise individual and team work based on task priorities and deadlines

PC8. monitor performance to ensure quality, accuracy, and timely completion of tasks

PC9. allocate responsibilities and establish work schedules to optimise team productivity

PC10. implement systems to track adherence to standard operating procedures (SOPs)

Maintain a safe, secure, and healthy workplace

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

PC11. communicate safety policies and procedures clearly to all team members

PC12. address risks such as accidents, electrical hazards, cyber risks, or health incidents as per emergency protocols

PC13. report hazards, breaches, or incidents promptly to the designated authority

PC14. promote practices that support mental well-being and respectful workplace behaviour.

Implement sustainable and efficient resource usage practices

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

PC15. implement ways to optimise the usage of material, energy and water, in various tasks/activities/processes

PC16. encourage regular upkeep of tools, machinery, and digital assets to extend usability

PC17. ensure team compliance with environmentally responsible work practices

PC18. promote the use of energy-efficient systems and paperless documentation where feasible.

PC19. report and resolve malfunctions or wastage through preventive or corrective actions

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. principles of continuous learning and knowledge management

KU2. strategies pertinent to the field that can be used to pursue an advancement of skills

KU3. organisational policies on performance standards and task completion

KU4. methods for identifying training and development needs

KU5. problem-solving frameworks and techniques

KU6. quality assurance systems and key performance indicators (KPIs)

KU7. health, safety, and cybersecurity practices applicable to the work environment

KU8. types of workplace hazards (physical, electrical, digital, etc.) and emergency response protocols

KU9. ways to conserve energy, water, and materials during operations

KU10. routine maintenance procedures for tools, equipment, or digital infrastructure

KU11. environmental, social, and governance (ESG) principles relevant to workplace operations.

Generic Skills (GS)

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

GS1. apply strategies for continuous improvement in personal and team performance.

GS2. think critically and adapt to changing work scenarios

GS3. interpret feedback from superiors in a constructive way

GS4. communicate effectively with team members, supervisors, and stakeholders

GS5. organise and manage work plans, schedules, and deliverables

GS6. interpret and act on feedback for professional growth

GS7. escalate safety, operational, or ethical issues to the appropriate authority

GS8. promote inclusive and respectful team dynamics

GS9. take ownership of work outcomes and support team accountability

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Manage learning and self-direction	**7**	**9**	**-**	**2**
PC1. identify individual and team training needs relevant to current and emerging job roles	3	3	-	1
PC2. participate in learning activities and skill development programs	2	3	-	-
PC3. encourage team participation in professional development, cross-functional knowledge sharing, and upskilling initiatives.	2	3	-	1
Foster critical thinking and problem-solving	**6**	**6**	**-**	**1**
PC4. guide team members to analyse problems logically and identify root causes	2	2	-	-
PC5. suggest appropriate and timely solutions to operational challenges	2	2	-	1
PC6. enable the team to evaluate outcomes of decisions and refine processes accordingly.	2	2	-	-
Perform work as per quality and performance standards	**9**	**10**	**-**	**2**
PC7. organise individual and team work based on task priorities and deadlines	3	3	-	-
PC8. monitor performance to ensure quality, accuracy, and timely completion of tasks	2	3	-	-
PC9. allocate responsibilities and establish work schedules to optimise team productivity	2	2	-	1
PC10. implement systems to track adherence to standard operating procedures (SOPs)	2	2	-	1
Maintain a safe, secure, and healthy workplace	**8**	**11**	**-**	**3**
PC11. communicate safety policies and procedures clearly to all team members	2	3	-	1
PC12. address risks such as accidents, electrical hazards, cyber risks, or health incidents as per emergency protocols	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. report hazards, breaches, or incidents promptly to the designated authority	2	3	-	1
PC14. promote practices that support mental well-being and respectful workplace behaviour.	2	2	-	1
Implement sustainable and efficient resource usage practices	**10**	**14**	**-**	**2**
PC15. implement ways to optimise the usage of material, energy and water, in various tasks/activities/processes	2	3	-	-
PC16. encourage regular upkeep of tools, machinery, and digital assets to extend usability	2	2	-	-
PC17. ensure team compliance with environmentally responsible work practices	2	3	-	1
PC18. promote the use of energy-efficient systems and paperless documentation where feasible.	2	3	-	1
PC19. report and resolve malfunctions or wastage through preventive or corrective actions	2	3	-	-
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	3.0
Last Reviewed Date	19/08/2025
Next Review Date	30/06/2028
NSQC Clearance Date	19/08/2025

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values – Citizenship

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

PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC4. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC5. recognize the significance of 21st Century Skills for employment

PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

PC7. use basic English for everyday conversation in different contexts, in person and over the telephone

PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC9. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

PC10. understand the difference between job and career

PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13. work collaboratively with others in a team

Diversity & Inclusion

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

PC14. communicate and behave appropriately with all genders and PwD

PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

PC16. select financial institutions, products and services as per requirement

PC17. carry out offline and online financial transactions, safely and securely

PC18. identify common components of salary and compute income, expenses, taxes, investments etc

PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

PC20. operate digital devices and carry out basic internet operations securely and safely

PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively

PC22. use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

PC26. identify different types of customers

PC27. identify and respond to customer requests and needs in a professional manner.

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

GS3. behave politely and appropriately with all
GS4. how to work in a virtual mode
GS5. perform calculations efficiently
GS6. solve problems effectively
GS7. pay attention to details
GS8. manage time efficiently
GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**2**	**4**	**-**	**-**
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	**1**	**2**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
Communication Skills	**2**	**2**	**-**	**-**
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**2**	**-**	**-**
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	**2**	**3**	**-**	**-**
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	**3**	**4**	**-**	**-**
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Entrepreneurship	**2**	**3**	**-**	**-**
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	**1**	**2**	**-**	**-**
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**2**	**3**	**-**	**-**
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

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.

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/N6260.Perform Market Analysis on Application of IoT	50	40	-	10	100	15
TEL/N6261.Supervise in Installation IoT Devices and System	30	60	-	10	100	15
TEL/N6262.Administer Acceptance Testing and Site Optimization Activities	30	60	-	10	100	15
TEL/N6280.Maintain Secure IoT Network Infrastructure	30	60	-	10	100	15
TEL/N9103.Implement Effective Interaction at workplace	30	60	-	10	100	15
TEL/N9104.Manage Work, Resources and Safety at workplace	40	50	-	10	100	15
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	**230**	**360**	**-**	**60**	**650**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualification 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.
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 Standard	NOS are occupational standards which apply uniquely in the Indian context.
Qualification 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	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	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.