

Qualification Pack



Telecom Field Operations Coordinator

QP Code: TEL/Q6202

Version: 4.0

NSQF Level: 5

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Qualification Pack

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TEL/Q6202: Telecom Field Operations Coordinator

Brief Job Description

A Telecom Field Operations Coordinator is responsible to ensure a fault-free network by coordinating with the Network Operations Centre (NOC) and the transmission team for periodic maintenance and fault resolution at radio locations. The individual is responsible for accepting new sites from the projects team, ensuring compliance with operational standards, and overseeing network upgrades and modifications. The role involves troubleshooting, preventive maintenance, and ensuring seamless execution of change activities to maintain network stability and performance.

Personal Attributes

The individual should be a team player with strong communication skills to interact with third-party vendors, along with analytical abilities to handle high-pressure situations. The individual should be physically fit, capable of frequent travel, and comfortable working on-site.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [TEL/N6208: Undertake Site Acceptance Testing](#)
2. [TEL/N6209: Perform Preventive and Corrective Maintenance at Radio Locations](#)
3. [TEL/N6210: Perform Change Management at Radio Locations](#)
4. [TEL/N6500: Undertake Fault Rectification](#)
5. [TEL/N6501: Undertake Configuration Changes, Upgrades and Node Back- up Activities](#)
6. [TEL/N9109: Follow sustainable practices in telecom infrastructure management](#)
7. [TEL/N9104: Manage Work, Resources and Safety at workplace](#)
8. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

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

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Country	India
NSQF Level	5
Credits	21
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.0701
Minimum Educational Qualification & Experience	Completed 2nd year of UG (UG Diploma) (3-year/ 4-years UG (B.Tech/B.E. in Electronics Engineering/ Electrical Engineering/ Telecommunication Engineering)) OR Completed 2nd year diploma after 12th (in Electronics and Communication Engineering/ Telecommunication Engineering/ Network Management and Security/ Wireless and Mobile Communication) OR 12th grade Pass with 3 Years of experience in telecom field operations OR Previous relevant Qualification of NSQF Level (4) with 3 Years of experience in telecom field operations OR Previous relevant Qualification of NSQF Level (4.5) with 1.5 years of experience in telecom field operations
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	21 Years
Last Reviewed On	NA
Next Review Date	30/04/2028
NSQC Approval Date	08/05/2025
Version	4.0
Reference code on NQR	QG-05-TL-04085-2025-V2-TSSC
NQR Version	2

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TEL/N6208: Undertake Site Acceptance Testing

Description

This unit is about carrying out site acceptance testing for sites handed over by projects to the Operations and Maintenance (O&M) team to ensure readiness, compliance, and functionality before operational deployment

Scope

The scope covers the following :

- Perform Acceptance Test (AT) of new sites
- Communicate test results and update records

Elements and Performance Criteria

Perform Acceptance Test (AT) of new sites

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

- PC1.** collect and review site AT checklists, project documentation, and technical specifications from relevant teams
- PC2.** check the availability and functionality of required test equipment such as E1 tester, Ethernet tester, VSWR meter, power meter, and optical meter
- PC3.** ensure compatibility of installed software versions on laptops and confirm they are ready for use in testing
- PC4.** inspect physical infrastructure for adherence to standards, including shelter condition, weatherproofing, grouting, cabling, earthing, and connector integrity
- PC5.** conduct logical tests such as VSWR levels, alarm connectivity, and equipment connectivity per site AT checklist
- PC6.** coordinate with field teams to complete testing of passive infrastructure, including antenna alignment, diesel generator functionality, SMPS condition, and battery backup performance
- PC7.** validate network performance by measuring key parameters such as signal strength, latency, throughput, and redundancy mechanisms
- PC8.** identify and document deviations from required specifications, flagging critical issues that need immediate resolution

Communicate test results and update records

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

- PC9.** report test outcomes to all relevant stakeholders, including BSS/BTS engineers, the NOC team, and project managers
- PC10.** highlight non-compliance issues and share a detailed punch list of pending tasks with the projects team for rectification
- PC11.** update site documentation with complete and accurate test records as per organizational standards
- PC12.** ensure accessibility of updated documentation to relevant authorities for verification and future reference

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- PC13.** recommend corrective measures for issues identified during testing and collaborate with teams for resolution

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standardized Site Acceptance Testing (SAT) checklists and critical punch points for assessing compliance
- KU2.** the functionality and usage of testing equipment such as E1 tester, Ethernet tester, VSWR meter, power meter, and optical meter
- KU3.** the types of login cables (RJ45, RS232, Hi-Speed USB) and their applications in site testing
- KU4.** software types and versions for BTS and related network equipment, including necessary configuration tools
- KU5.** the operational characteristics of active network equipment such as Microwave, BTS (indoor and outdoor), feeder cables, and fiber optic connections
- KU6.** passive infrastructure components, including DG sets, PIU panels, transformers, SMPS, air conditioning systems, and battery banks
- KU7.** environmental and safety compliance factors affecting site functionality, such as grounding, weatherproofing, and electrical insulation
- KU8.** network performance parameters, including signal strength, interference levels, and equipment latency
- KU9.** the applicable documentation and reporting standards to ensure alignment with regulatory and operational requirements
- KU10.** industry best practices and emerging trends in network deployment, testing methodologies, and remote monitoring

Generic Skills (GS)

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

- GS1.** interpret technical documents such as checklists, site layouts, and testing procedures to ensure compliance
- GS2.** utilize digital tools and software efficiently for testing, data logging, and result analysis
- GS3.** optimize resource utilization by managing test equipment, scheduling inspections, and reducing redundant efforts
- GS4.** work effectively under pressure, managing multiple tasks while maintaining testing accuracy and deadlines
- GS5.** collaborate with cross-functional teams, including project engineers, field technicians, and NOC teams, for smooth site handover
- GS6.** take initiative in troubleshooting unexpected site issues and proposing alternative solutions for quick resolution
- GS7.** maintain structured records of test results, non-compliance issues, and corrective actions for audit and future reference

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- GS8.** follow updates in technology advancements in network infrastructure, testing methodologies, and automation tools
- GS9.** ensure compliance with safety regulations while performing site acceptance testing to prevent hazards and system failures
- GS10.** adapt to evolving testing standards and network protocols, applying new methodologies to enhance efficiency and accuracy

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform Acceptance Test (AT) of new sites</i>	20	28	-	10
PC1. collect and review site AT checklists, project documentation, and technical specifications from relevant teams	3	5	-	1
PC2. check the availability and functionality of required test equipment such as E1 tester, Ethernet tester, VSWR meter, power meter, and optical meter	3	5	-	1
PC3. ensure compatibility of installed software versions on laptops and confirm they are ready for use in testing	4	3	-	1
PC4. inspect physical infrastructure for adherence to standards, including shelter condition, weatherproofing, grouting, cabling, earthing, and connector integrity	2	3	-	2
PC5. conduct logical tests such as VSWR levels, alarm connectivity, and equipment connectivity per site AT checklist	3	3	-	1
PC6. coordinate with field teams to complete testing of passive infrastructure, including antenna alignment, diesel generator functionality, SMPS condition, and battery backup performance	2	3	-	2
PC7. validate network performance by measuring key parameters such as signal strength, latency, throughput, and redundancy mechanisms	2	3	-	1
PC8. identify and document deviations from required specifications, flagging critical issues that need immediate resolution	1	3	-	1
<i>Communicate test results and update records</i>	10	22	-	10
PC9. report test outcomes to all relevant stakeholders, including BSS/BTS engineers, the NOC team, and project managers	1	4	-	2

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. highlight non-compliance issues and share a detailed punch list of pending tasks with the projects team for rectification	2	4	-	2
PC11. update site documentation with complete and accurate test records as per organizational standards	2	4	-	2
PC12. ensure accessibility of updated documentation to relevant authorities for verification and future reference	3	6	-	2
PC13. recommend corrective measures for issues identified during testing and collaborate with teams for resolution	2	4	-	2
NOS Total	30	50	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6208
NOS Name	Undertake Site Acceptance Testing
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	5
Version	4.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

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TEL/N6209: Perform Preventive and Corrective Maintenance at Radio Locations

Description

This unit covers performing Preventive Maintenance (PM) and Corrective Maintenance (CM) at radio locations to ensure their optimal working condition, reliability, and compliance with operational standards

Scope

The scope covers the following :

- Prepare for Preventive Maintenance (PM)
- Prepare for Corrective Maintenance (CM)
- Arrange for tools, test equipment, and spares
- Carry out Preventive Maintenance (PM)
- Carry out Corrective Maintenance (CM)
- Test effectiveness, report, and record

Elements and Performance Criteria

Prepare for Preventive Maintenance (PM)

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

- PC1.** maintain an updated site folder with a list of sites, BTS types, transceiver details, and maintenance history
- PC2.** obtain and review the PM schedule, site-specific checklists, and compliance guidelines from the supervisor
- PC3.** coordinate with the Network Operations Centre (NOC) to confirm maintenance windows and potential site impact
- PC4.** verify availability and functionality of necessary test equipment before proceeding with PM activities

Prepare for Corrective Maintenance (CM)

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

- PC5.** identify and assess alarm severity based on predefined Service Level Agreements (SLAs) and impact on network elements
- PC6.** retrieve and analyze fault reports and historical data from the NOC to identify potential root causes
- PC7.** prioritize corrective actions based on service impact analysis and escalate critical alarms if required

Arrange for tools, test equipment, and spares

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

- PC8.** ensure availability of login cables (RJ45, RS232, USB), updated site software, and necessary spare components such as TRX cards, rectifiers, and power modules
- PC9.** generate spare part requisitions following inventory policies and update spare tracking records

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PC10. implement a process for faulty equipment repair and return logistics, ensuring minimal downtime

Carry out Preventive Maintenance (PM)

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

- PC11.** conduct scheduled maintenance activities (monthly, quarterly, half-yearly) as per organizational standards
- PC12.** inspect and document the physical condition of equipment, including temperature levels, cable routing, fan operation, battery voltage, oil levels in DG sets, and air filter condition
- PC13.** verify grouting, earthing connections, earthing pit moisture levels, insulation integrity, and electrical wiring compliance
- PC14.** perform logical maintenance tasks, including checking alarm status, system redundancy, and software/firmware version control
- PC15.** ensure timely raising of maintenance requests for third-party infrastructure, including HVAC and power supply systems
- PC16.** escalate unresolved or emergency issues following organizational protocols
- PC17.** coordinate with the infrastructure engineer to ensure environmental upkeep, security, and hazard mitigation

Carry out Corrective Maintenance (CM)

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

- PC18.** conduct initial diagnostic tests to isolate and identify fault sources in active and passive equipment
- PC19.** analyze fault resolution options and seek supervisor approval when required
- PC20.** work with infrastructure engineers to resolve passive infrastructure issues such as DG, power systems, and grounding
- PC21.** use appropriate login cables and diagnostic tools to troubleshoot BTS, microwave IDU/ODU, and fiber optic links
- PC22.** implement corrective actions within defined SLAs, ensuring proper tracking of repair work and component replacements

Test effectiveness, report, and record

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

- PC23.** verify maintenance effectiveness by monitoring alarm status and system parameters post-repair
- PC24.** ensure completion of all administrative tasks such as site clearance, tool return, and compliance checks
- PC25.** notify relevant stakeholders, including BSS/BTS support engineers, NOC, and supervisors, about maintenance outcomes
- PC26.** maintain up-to-date logs of maintenance activities, alarm resolutions, and spare part usage as per documentation standards
- PC27.** ensure documentation accuracy and compliance for regulatory audits and operational reference

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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- KU1.** the types and functions of BTS site active equipment (Microwave, BTS, feeder cables, optical fiber links)
- KU2.** preventive maintenance procedures and best practices for telecom infrastructure
- KU3.** common network alarms, alarm categories, and predefined SLAs for fault resolution
- KU4.** the proper handling and connectivity of login cables (RJ45, RS232, Hi-Speed USB) for site equipment access
- KU5.** spare management, repair tracking, and return processes for faulty telecom equipment
- KU6.** the risks associated with non-compliance to maintenance schedules and operational procedures
- KU7.** the functionality of passive infrastructure components, including DG sets, PIU panels, transformers, SMPS, HVAC, and battery banks
- KU8.** the importance of site earthing, grounding pit maintenance, and mitigation of electrical hazards
- KU9.** the working principles and usage of test equipment, including E1 testers, ethernet testers, VSWR meters, RF power meters, and optical power meters
- KU10.** escalation protocols and incident reporting procedures for unresolved maintenance issues
- KU11.** the applicable documentation requirements, including regulatory compliance records and operational logs

Generic Skills (GS)

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

- GS1.** interpret and analyze technical documents, network logs, and manufacturer manuals for troubleshooting
- GS2.** monitor and assess network performance through alarm reports and real-time data analytics
- GS3.** organize and prioritize maintenance tasks effectively in high-pressure scenarios
- GS4.** communicate maintenance plans, issues, and resolutions effectively with cross-functional teams
- GS5.** utilize digital tools and telecom software for site diagnostics and performance tracking
- GS6.** adapt to new technologies and evolving maintenance methodologies in telecom operations
- GS7.** work collaboratively with vendors, infrastructure teams, and remote NOC support for seamless operations
- GS8.** implement best practices for spare management and inventory control to minimize downtime
- GS9.** escalate critical issues promptly and follow structured problem-resolution frameworks
- GS10.** maintain detailed records and documentation in accordance with organizational and regulatory standards

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for Preventive Maintenance (PM)</i>	5	8	-	3
PC1. maintain an updated site folder with a list of sites, BTS types, transceiver details, and maintenance history	2	2	-	0.5
PC2. obtain and review the PM schedule, site-specific checklists, and compliance guidelines from the supervisor	1	2	-	0.5
PC3. coordinate with the Network Operations Centre (NOC) to confirm maintenance windows and potential site impact	1	2	-	1
PC4. verify availability and functionality of necessary test equipment before proceeding with PM activities	1	2	-	1
<i>Prepare for Corrective Maintenance (CM)</i>	3	6	-	3
PC5. identify and assess alarm severity based on predefined Service Level Agreements (SLAs) and impact on network elements	1	2	-	1
PC6. retrieve and analyze fault reports and historical data from the NOC to identify potential root causes	1	2	-	1
PC7. prioritize corrective actions based on service impact analysis and escalate critical alarms if required	1	2	-	1
<i>Arrange for tools, test equipment, and spares</i>	3	6	-	2
PC8. ensure availability of login cables (RJ45, RS232, USB), updated site software, and necessary spare components such as TRX cards, rectifiers, and power modules	1	2	-	0.5
PC9. generate spare part requisitions following inventory policies and update spare tracking records	1	2	-	0.5

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. implement a process for faulty equipment repair and return logistics, ensuring minimal downtime	1	2	-	1
<i>Carry out Preventive Maintenance (PM)</i>	8	10	-	5
PC11. conduct scheduled maintenance activities (monthly, quarterly, half-yearly) as per organizational standards	1	2	-	0.5
PC12. inspect and document the physical condition of equipment, including temperature levels, cable routing, fan operation, battery voltage, oil levels in DG sets, and air filter condition	1	1	-	0.5
PC13. verify grouting, earthing connections, earthing pit moisture levels, insulation integrity, and electrical wiring compliance	1	1	-	1
PC14. perform logical maintenance tasks, including checking alarm status, system redundancy, and software/firmware version control	2	1	-	0.5
PC15. ensure timely raising of maintenance requests for third-party infrastructure, including HVAC and power supply systems	1	2	-	0.5
PC16. escalate unresolved or emergency issues following organizational protocols	1	1	-	1
PC17. coordinate with the infrastructure engineer to ensure environmental upkeep, security, and hazard mitigation	1	2	-	1
<i>Carry out Corrective Maintenance (CM)</i>	5	10	-	3
PC18. conduct initial diagnostic tests to isolate and identify fault sources in active and passive equipment	1	2	-	0.5
PC19. analyze fault resolution options and seek supervisor approval when required	1	2	-	0.5
PC20. work with infrastructure engineers to resolve passive infrastructure issues such as DG, power systems, and grounding	1	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. use appropriate login cables and diagnostic tools to troubleshoot BTS, microwave IDU/ODU, and fiber optic links	1	2	-	0.5
PC22. implement corrective actions within defined SLAs, ensuring proper tracking of repair work and component replacements	1	2	-	0.5
<i>Test effectiveness, report, and record</i>	6	10	-	4
PC23. verify maintenance effectiveness by monitoring alarm status and system parameters post-repair	1	2	-	0.5
PC24. ensure completion of all administrative tasks such as site clearance, tool return, and compliance checks	1	2	-	0.5
PC25. notify relevant stakeholders, including BSS/BTS support engineers, NOC, and supervisors, about maintenance outcomes	1	2	-	1
PC26. maintain up-to-date logs of maintenance activities, alarm resolutions, and spare part usage as per documentation standards	2	2	-	1
PC27. ensure documentation accuracy and compliance for regulatory audits and operational reference	1	2	-	1
NOS Total	30	50	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6209
NOS Name	Perform Preventive and Corrective Maintenance at Radio Locations
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	4
Version	4.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

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TEL/N6210: Perform Change Management at Radio Locations

Description

This unit is about carrying out change management activities, including system upgrades, site capacity augmentation, antenna re-alignment, and physical optimization, at radio locations to ensure seamless network performance

Scope

The scope covers the following :

- Assess upgradation of infrastructure
- Arrange for tools, spares, and resources
- Carry out change and monitor post-change performance
- Report and document the status

Elements and Performance Criteria

Assess upgradation of infrastructure

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

- PC1.** validate change requests from relevant teams such as NOC, change management, and network planning
- PC2.** identify and categorize the type of activity, including hardware upgrades, software updates, capacity augmentation, antenna realignment, or microwave backup
- PC3.** analyze the criticality, dependencies, and impact of the requested change on network performance
- PC4.** develop a structured work plan, including pre-change checks and resource requirements
- PC5.** assess potential downtime and develop contingency measures to minimize service disruption
- PC6.** notify and obtain approval from the Network Operation Centre (NOC) before executing any changes
- PC7.** verify that necessary permits and access authorizations are obtained prior to initiating the upgrade

Arrange for tools, spares, and resources

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

- PC8.** ensure availability of login cables, latest firmware/software versions, and site-specific diagnostic tools
- PC9.** check inventory levels of essential spare hardware, such as TRX cards, and initiate requests if needed
- PC10.** coordinate with the logistics team for the procurement, repair, and return of faulty or obsolete equipment
- PC11.** ensure compliance with organizational spare management and tracking procedures

Carry out change and monitor post-change performance

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

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- PC12.** implement change management activities as per the approved work plan and industry best practices
- PC13.** conduct real-time monitoring of key performance indicators (KPIs) during and after the change
- PC14.** identify and escalate any anomalies or unexpected network behaviors immediately
- PC15.** execute rollback procedures if changes result in service degradation beyond acceptable thresholds
- PC16.** adhere to defined Service Level Agreements (SLAs) for change completion and performance validation

Report and document the status

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

- PC17.** complete administrative tasks post-change, including site clearance and return of testing tools
- PC18.** verify post-change effectiveness by monitoring alarm status and liaising with the NOC team
- PC19.** document all activities, including before-and-after performance snapshots, troubleshooting logs, and resolution timelines
- PC20.** notify all relevant stakeholders (Field Management Engineer, NOC team, supervisors) regarding the status of changes and obtain sign-offs
- PC21.** update network documentation, maintenance logs, and spare inventory records in compliance with regulatory and organizational standards

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** industry best practices and protocols for change management in radio networks
- KU2.** functionality, configurations, and integration of site equipment, including microwave links, BTS (indoor and outdoor), feeder cables, and fiber optics
- KU3.** networking tools, login cables (RJ-45, RS-232, Hi-Speed USB), and software interfaces for remote and on-site system configuration
- KU4.** spare management procedures, including handling, tracking, and returning defective parts
- KU5.** potential risks, vulnerabilities, and security concerns associated with system changes
- KU6.** escalation matrix and communication protocols for reporting change-related issues
- KU7.** the applicable documentation standards and regulatory requirements for maintaining change logs and inventory records
- KU8.** compliance requirements related to safety standards, radio frequency exposure limits, and environmental impact of infrastructure changes
- KU9.** advanced troubleshooting techniques, including log analysis and diagnostic testing for post-change validation
- KU10.** impact assessment methodologies for evaluating the effect of infrastructure upgrades on network performance and capacity

Generic Skills (GS)

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

- GS1.** analyze network data, logs, and performance metrics to assess the impact of changes
- GS2.** organize and prioritize tasks effectively to meet project deadlines under pressure
- GS3.** communicate technical details clearly with internal teams, vendors, and stakeholders
- GS4.** interpret service level agreements (SLAs) and ensure adherence to defined response times
- GS5.** document processes, issues, and resolutions accurately for future reference and audits
- GS6.** adapt to evolving technologies and implement best practices in radio infrastructure management
- GS7.** apply critical thinking to identify potential risks and develop mitigation strategies
- GS8.** collaborate efficiently with cross-functional teams to execute and validate changes
- GS9.** troubleshoot issues systematically using diagnostic tools and historical data
- GS10.** maintain a proactive approach to continuous learning and upskilling in emerging telecom technologies

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assess upgradation of infrastructure</i>	10	15	-	6
PC1. validate change requests from relevant teams such as NOC, change management, and network planning	1	2	-	0.5
PC2. identify and categorize the type of activity, including hardware upgrades, software updates, capacity augmentation, antenna realignment, or microwave backup	2	2	-	0.5
PC3. analyze the criticality, dependencies, and impact of the requested change on network performance	2	2	-	1
PC4. develop a structured work plan, including pre-change checks and resource requirements	2	3	-	1
PC5. assess potential downtime and develop contingency measures to minimize service disruption	1	2	-	1
PC6. notify and obtain approval from the Network Operation Centre (NOC) before executing any changes	1	2	-	1
PC7. verify that necessary permits and access authorizations are obtained prior to initiating the upgrade	1	2	-	1
<i>Arrange for tools, spares, and resources</i>	6	10	-	4
PC8. ensure availability of login cables, latest firmware/software versions, and site-specific diagnostic tools	1	3	-	1
PC9. check inventory levels of essential spare hardware, such as TRX cards, and initiate requests if needed	2	2	-	1
PC10. coordinate with the logistics team for the procurement, repair, and return of faulty or obsolete equipment	2	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. ensure compliance with organizational spare management and tracking procedures	1	3	-	1
<i>Carry out change and monitor post-change performance</i>	7	14	-	5
PC12. implement change management activities as per the approved work plan and industry best practices	1	3	-	1
PC13. conduct real-time monitoring of key performance indicators (KPIs) during and after the change	2	4	-	1
PC14. identify and escalate any anomalies or unexpected network behaviors immediately	2	2	-	1
PC15. execute rollback procedures if changes result in service degradation beyond acceptable thresholds	1	3	-	1
PC16. adhere to defined Service Level Agreements (SLAs) for change completion and performance validation	1	2	-	1
<i>Report and document the status</i>	7	11	-	5
PC17. complete administrative tasks post-change, including site clearance and return of testing tools	1	3	-	1
PC18. verify post-change effectiveness by monitoring alarm status and liaising with the NOC team	1	2	-	1
PC19. document all activities, including before-and-after performance snapshots, troubleshooting logs, and resolution timelines	2	2	-	1
PC20. notify all relevant stakeholders (Field Management Engineer, NOC team, supervisors) regarding the status of changes and obtain sign-offs	2	2	-	1
PC21. update network documentation, maintenance logs, and spare inventory records in compliance with regulatory and organizational standards	1	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	50	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6210
NOS Name	Perform Change Management at Radio Locations
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	3
Version	5.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

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TEL/N6500: Undertake Fault Rectification

Description

This unit is about effectively identifying, diagnosing, and rectifying faults in the Base Station Sub-system (BSS) network in coordination with the field teams and ensuring compliance with service level agreements (SLAs)

Scope

The scope covers the following :

- Monitor network alarms
- Perform fault diagnosis and rectification
- Test effectiveness, report and record the test results

Elements and Performance Criteria

Monitor network alarms

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

- PC1.** log in to the alarm management system using secure user credentials
- PC2.** monitor network alarms on the Network Management System (NMS) and assess threshold levels
- PC3.** generate service requests/tickets as per the priority matrix and escalate unresolved critical alarms analyze alarm severity, affected network elements, and SLAs to initiate corrective action
- PC4.** verify fault resolutions by comparing current configurations against previous backup records and alarm logs
- PC5.** coordinate with the infrastructure NOC to determine if the alarm originates from passive infrastructure faults
- PC6.** categorize alarms based on service impact analysis and take appropriate actions for resolution

Perform fault diagnosis and rectification

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

- PC7.** identify root causes of alarms by following standardized troubleshooting protocols
- PC8.** conduct advanced diagnostic tests, including remote analysis of active equipment, in case predefined methods are unavailable
- PC9.** evaluate fault rectification options and confirm the selected solution with supervisors if required
- PC10.** determine if a system reset or other corrective measures are necessary based on fault severity
- PC11.** dispatch field engineers and provide clear fault rectification instructions, including part replacements, as per SLAs
- PC12.** monitor and verify the fault resolution process executed by field engineers and technicians

Test effectiveness, report, and record test results

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

- PC13.** coordinate with the NOC team to confirm maintenance effectiveness by monitoring post-rectification alarm status
- PC14.** ensure completion of post-maintenance activities, including equipment return and site clearance
- PC15.** notify all relevant stakeholders (BSS/BTS support engineers, NOC team, supervisors, project teams) of test results
- PC16.** maintain detailed logs, including fault rectification reports, maintenance records, and spare parts usage
- PC17.** ensure all documentation is updated, reviewed, and maintained as per organizational standards
- PC18.** provide necessary documents for audits and regulatory inspections in a timely manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the functions and capabilities of Network Monitoring System (NMS) and related tools
- KU2.** end-to-end ticketing process, including lifecycle tracking and resolution workflows
- KU3.** various types of alarms, their impact, and corresponding troubleshooting methodologies
- KU4.** advanced fault diagnosis techniques, including data analysis and predictive maintenance
- KU5.** key functionalities of passive infrastructure elements such as DG sets, PIU panels, transformers, SMPS, air conditioners, and battery banks
- KU6.** network topology structures (ring, daisy chain) and their impact on fault localization and rectification
- KU7.** the importance of Maintenance Operation Protocols (MOPs) for reducing repeat faults
- KU8.** the characteristics and performance parameters of service networks such as GSM, WCDMA, and LTE
- KU9.** interpretation and application of VSWR and E1 test results for fault localization
- KU10.** industry best practices in documentation, regulatory compliance, and data security
- KU11.** record-keeping standards and consequences of poor documentation management

Generic Skills (GS)

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

- GS1.** communicate effectively in technical and operational contexts
- GS2.** prioritize tasks and manage workload efficiently in high-pressure environments
- GS3.** utilize available resources, including workforce and diagnostic tools, efficiently
- GS4.** analyze network maintenance documents, alarm logs, and troubleshooting reports
- GS5.** maintain attention to detail while performing fault analysis and documentation
- GS6.** collaborate with cross-functional teams to ensure effective fault resolution
- GS7.** adapt to evolving technologies, methodologies, and industry standards

Qualification Pack

- GS8.** document technical procedures, test results, and resolution steps clearly and concisely
- GS9.** adhere to safety and security protocols while handling network infrastructure
- GS10.** apply problem-solving techniques for quick and effective resolution of network faults

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Monitor network alarms</i>	12	16	-	8
PC1. log in to the alarm management system using secure user credentials	2	4	-	2
PC2. monitor network alarms on the Network Management System (NMS) and assess threshold levels	2	2	-	1
PC3. generate service requests/tickets as per the priority matrix and escalate unresolved critical alarms analyze alarm severity, affected network elements, and SLAs to initiate corrective action	2	3	-	2
PC4. verify fault resolutions by comparing current configurations against previous backup records and alarm logs	2	3	-	1
PC5. coordinate with the infrastructure NOC to determine if the alarm originates from passive infrastructure faults	2	2	-	1
PC6. categorize alarms based on service impact analysis and take appropriate actions for resolution	2	2	-	1
<i>Perform fault diagnosis and rectification</i>	6	19	-	6
PC7. identify root causes of alarms by following standardized troubleshooting protocols	1	5	-	1
PC8. conduct advanced diagnostic tests, including remote analysis of active equipment, in case predefined methods are unavailable	1	4	-	1
PC9. evaluate fault rectification options and confirm the selected solution with supervisors if required	1	2	-	1
PC10. determine if a system reset or other corrective measures are necessary based on fault severity	1	4	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. dispatch field engineers and provide clear fault rectification instructions, including part replacements, as per SLAs	1	2	-	1
PC12. monitor and verify the fault resolution process executed by field engineers and technicians	1	2	-	1
<i>Test effectiveness, report, and record test results</i>	12	15	-	6
PC13. coordinate with the NOC team to confirm maintenance effectiveness by monitoring post-rectification alarm status	2	3	-	1
PC14. ensure completion of post-maintenance activities, including equipment return and site clearance	2	2	-	1
PC15. notify all relevant stakeholders (BSS/BTS support engineers, NOC team, supervisors, project teams) of test results	2	3	-	1
PC16. maintain detailed logs, including fault rectification reports, maintenance records, and spare parts usage	2	3	-	1
PC17. ensure all documentation is updated, reviewed, and maintained as per organizational standards	2	2	-	1
PC18. provide necessary documents for audits and regulatory inspections in a timely manner	2	2	-	1
NOS Total	30	50	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6500
NOS Name	Undertake Fault Rectification
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	3
Version	4.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

Qualification Pack

TEL/N6501: Undertake Configuration Changes, Upgrades and Node Back-up Activities

Description

This unit covers performing change management and node backup activities in the BSS network, ensuring seamless operation and minimal downtime

Scope

The scope covers the following :

- Determine change requirements
- Execute changes and monitor post-change activities from NOC location
- Report and document the status

Elements and Performance Criteria

Determine change requirements

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

- PC1.** identify and verify change requirements based on scheduled maintenance plans, operational needs, and directives from technical teams
- PC2.** assess the urgency and criticality of the requested changes, considering potential operational risks and business impact
- PC3.** develop a structured work plan that includes resource allocation, dependencies, and approval workflows
- PC4.** conduct a risk analysis to anticipate service outages and determine mitigation strategies
- PC5.** notify the Network Operations Centre (NOC) and relevant stakeholders before initiating upgrade or configuration changes
- PC6.** obtain necessary approvals from customers and management for service-impacting changes, ensuring compliance with regulatory and contractual obligations

Execute changes and monitor post-change activities from NOC location

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

- PC7.** implement configuration changes, software upgrades, and firmware updates as per approved change requests
- PC8.** perform comprehensive node backups before and after change activities, adhering to organizational backup policies
- PC9.** monitor system performance and alarms post-change to detect anomalies or failures
- PC10.** execute contingency plans in case of service disruption, ensuring rollback procedures are in place
- PC11.** ensure adherence to Service Level Agreements (SLAs) and change management protocols throughout the process

Report and document the status

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

- PC12.** collaborate with the NOC team to verify system stability and performance post-maintenance

Qualification Pack

- PC13.** provide timely updates and detailed reports to stakeholders, including NOC personnel and supervisors
- PC14.** log change activities, findings, and resolutions in the system, ensuring tickets are updated and closed appropriately

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the Standard operating procedures (SOPs) for change management, upgrade, and backup activities
- KU2.** incident escalation protocols for system failures, security breaches, and environmental hazards
- KU3.** the functionalities of key network elements, including BSC, BTS, transmission links, and related infrastructure
- KU4.** operational aspects of passive infrastructure components such as DG sets, power systems, air conditioning, and battery backup systems
- KU5.** Network Monitoring System (NMS) functions for real-time fault detection and performance tracking
- KU6.** risks associated with unplanned changes, non-compliance with standard procedures, and improper backup management
- KU7.** industry best practices and technological advancements in BSS network upgrades and configuration management
- KU8.** cybersecurity measures to ensure network integrity during configuration changes
- KU9.** compliance requirements, including data privacy and telecommunications regulations
- KU10.** root cause analysis techniques for identifying and mitigating network failures

Generic Skills (GS)

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

- GS1.** interpret and analyze reports, system logs, and performance metrics to make informed decisions
- GS2.** manage and prioritize tasks effectively in high-pressure environments to meet deadlines
- GS3.** communicate technical details clearly with internal and external stakeholders in English and local language
- GS4.** collaborate with cross-functional teams, including NOC, field engineers, and vendor support teams
- GS5.** use diagnostic tools and software applications to troubleshoot and resolve configuration-related issues
- GS6.** adapt to evolving technologies, protocols, and industry trends to enhance system performance
- GS7.** maintain meticulous documentation of changes, backups, and system performance for audit and compliance purposes
- GS8.** identify potential risks and develop proactive solutions to minimize service disruptions

Qualification Pack

- GS9.** follow cybersecurity best practices while handling network configurations and data backups
- GS10.** train junior team members on change management processes and industry best practices

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Determine change requirements</i>	15	21	-	8
PC1. identify and verify change requirements based on scheduled maintenance plans, operational needs, and directives from technical teams	3	5	-	1
PC2. assess the urgency and criticality of the requested changes, considering potential operational risks and business impact	2	4	-	2
PC3. develop a structured work plan that includes resource allocation, dependencies, and approval workflows	3	3	-	1
PC4. conduct a risk analysis to anticipate service outages and determine mitigation strategies	2	3	-	1
PC5. notify the Network Operations Centre (NOC) and relevant stakeholders before initiating upgrade or configuration changes	2	4	-	1
PC6. obtain necessary approvals from customers and management for service-impacting changes, ensuring compliance with regulatory and contractual obligations	3	2	-	2
<i>Execute changes and monitor post-change activities from NOC location</i>	9	17	-	7
PC7. implement configuration changes, software upgrades, and firmware updates as per approved change requests	2	3	-	1
PC8. perform comprehensive node backups before and after change activities, adhering to organizational backup policies	1	4	-	1
PC9. monitor system performance and alarms post-change to detect anomalies or failures	2	3	-	2
PC10. execute contingency plans in case of service disruption, ensuring rollback procedures are in place	2	3	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. ensure adherence to Service Level Agreements (SLAs) and change management protocols throughout the process	2	4	-	2
<i>Report and document the status</i>	6	12	-	5
PC12. collaborate with the NOC team to verify system stability and performance post-maintenance	2	4	-	1
PC13. provide timely updates and detailed reports to stakeholders, including NOC personnel and supervisors	2	4	-	2
PC14. log change activities, findings, and resolutions in the system, ensuring tickets are updated and closed appropriately	2	4	-	2
NOS Total	30	50	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6501
NOS Name	Undertake Configuration Changes, Upgrades and Node Back- up Activities
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	5
Credits	3
Version	4.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

Qualification Pack

TEL/N9109: Follow sustainable practices in telecom infrastructure management

Description

This unit focuses on sustainability practices in telecom infrastructure management, covering e-waste management, green practices, hazardous and non-hazardous waste, and energy efficiency.

Scope

The scope covers the following :

- Manage hazardous and e-waste at telecom sites
- Adopt green energy and resource efficiency practices
- Follow waste reduction strategies
- Ensure compliance with environmental regulations

Elements and Performance Criteria

Manage hazardous and e-waste at telecom sites

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

- PC1.** identify, segregate, and categorize e-waste (batteries, cables, outdated equipment) and hazardous waste (lead-acid batteries, diesel residues, etc.)
- PC2.** dispose of or recycle waste following the applicable e-waste management guidelines
- PC3.** follow safe handling procedures for hazardous materials, including protective gear usage
- PC4.** maintain logs and records of disposed, recycled, or repurposed telecom waste

Adopt green energy and resource efficiency practices

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

- PC5.** optimize power usage through energy-efficient telecom equipment (e.g., LED lighting, smart cooling systems)
- PC6.** assist in adopting solar-powered telecom towers and integration of hybrid energy systems (e.g. solar power and battery backup)
- PC7.** monitor and minimize fuel consumption in Diesel Generators (DG) sets through load balancing and regular maintenance

Follow waste reduction strategies

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

- PC8.** reduce packaging waste by promoting the reuse of telecom materials and accessories
- PC9.** follow rainwater harvesting and wastewater reuse practices in telecom cooling systems
- PC10.** promote structured cabling to reduce cable waste and optimize resource utilization

Ensure compliance with environmental regulations

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

- PC11.** follow Central Pollution Control Board (CPCB) guidelines for telecom site waste disposal
- PC12.** assist in conducting periodic environmental audits to ensure sustainability compliance
- PC13.** guide co-workers on eco-friendly practices and waste management policies at telecom sites

Qualification Pack

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** e-waste management rules (2022) applicable the telecom sector
- KU2.** Central Pollution Control Board (CPCB) hazardous waste disposal regulations
- KU3.** safety standards for battery handling and disposal (lead-acid, lithium-ion)
- KU4.** the importance of structured cabling and cable reuse to minimize telecom waste
- KU5.** the techniques for energy optimization in telecom infrastructure (e.g., smart cooling, LED lighting, hybrid power systems)
- KU6.** the role of solar energy and other renewable sources in reducing telecom carbon footprint
- KU7.** green telecom practices like fuel efficiency in DG sets and power-saving measures
- KU8.** best practices in telecom tower site waste management
- KU9.** the principles of water conservation and sustainable telecom site design
- KU10.** the importance of training telecom employees on environmental awareness and compliance

Generic Skills (GS)

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

- GS1.** explain sustainability practices to team members
- GS2.** identify and address issues in waste management and energy efficiency
- GS3.** maintain logs on waste disposal, recycling, and energy savings
- GS4.** analyze power consumption and propose efficiency improvements
- GS5.** select between disposal, recycling, or repurposing of telecom waste
- GS6.** adhere to the applicable environmental laws and guidelines
- GS7.** work with vendors and waste management partners for sustainable practices
- GS8.** adapt to new green technologies and sustainability policies
- GS9.** ensure prompt and efficient waste disposal and as per applicable schedules

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Manage hazardous and e-waste at telecom sites</i>	8	15	-	5
PC1. identify, segregate, and categorize e-waste (batteries, cables, outdated equipment) and hazardous waste (lead-acid batteries, diesel residues, etc.)	2	4	-	2
PC2. dispose of or recycle waste following the applicable e-waste management guidelines	2	4	-	1
PC3. follow safe handling procedures for hazardous materials, including protective gear usage	2	4	-	1
PC4. maintain logs and records of disposed, recycled, or repurposed telecom waste	2	3	-	1
<i>Adopt green energy and resource efficiency practices</i>	6	15	-	5
PC5. optimize power usage through energy-efficient telecom equipment (e.g., LED lighting, smart cooling systems)	2	5	-	2
PC6. assist in adopting solar-powered telecom towers and integration of hybrid energy systems (e.g. solar power and battery backup)	2	5	-	1
PC7. monitor and minimize fuel consumption in Diesel Generators (DG) sets through load balancing and regular maintenance	2	5	-	2
<i>Follow waste reduction strategies</i>	8	10	-	5
PC8. reduce packaging waste by promoting the reuse of telecom materials and accessories	3	4	-	2
PC9. follow rainwater harvesting and wastewater reuse practices in telecom cooling systems	3	3	-	2
PC10. promote structured cabling to reduce cable waste and optimize resource utilization	2	3	-	1
<i>Ensure compliance with environmental regulations</i>	8	10	-	5

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow Central Pollution Control Board (CPCB) guidelines for telecom site waste disposal	3	4	-	2
PC12. assist in conducting periodic environmental audits to ensure sustainability compliance	3	3	-	2
PC13. guide co-workers on eco-friendly practices and waste management policies at telecom sites	2	3	-	1
NOS Total	30	50	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N9109
NOS Name	Follow sustainable practices in telecom infrastructure management
Sector	Telecom
Sub-Sector	
Occupation	Generic
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

Qualification Pack

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

Qualification Pack

- 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

Qualification Pack

- 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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Manage learning and self-direction</i>	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	-	-
<i>Develop critical thinking and problem solving</i>	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	-	-
<i>Perform work as per quality standards</i>	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
<i>Maintain safe and secure working environment</i>	12	13	-	2
PC11. identify organisation's health, safety, security policies and procedures	3	3	-	-

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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
<i>Material / energy / electricity conservation practices</i>	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

Qualification Pack

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	08/05/2025
Next Review Date	30/04/2028
NSQC Clearance Date	08/05/2025

Qualification Pack

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

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

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

Becoming a Professional in the 21st Century

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

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

Basic English Skills

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

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

Communication Skills

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

PC5. follow good manners while communicating with others

PC6. work with others in a team

Qualification Pack

Diversity & Inclusion

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

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

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

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

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

Essential Digital Skills

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

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

PC13. use internet and social media platforms securely and safely

Entrepreneurship

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

PC14. identify and assess opportunities for potential business

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

Customer Service

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

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

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

KU5. how to use basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

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

KU9. different types of financial products and services

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

Generic Skills (GS)

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

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

Qualification Pack

Assessment Criteria

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

Qualification Pack

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

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	30/04/2025
Next Review Date	30/04/2028
NSQC Clearance Date	30/04/2025

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.

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/N6208.Undertake Site Acceptance Testing	30	50	-	20	100	15
TEL/N6209.Perform Preventive and Corrective Maintenance at Radio Locations	30	50	-	20	100	15
TEL/N6210.Perform Change Management at Radio Locations	30	50	-	20	100	15
TEL/N6500.Undertake Fault Rectification	30	50	-	20	100	15
TEL/N6501.Undertake Configuration Changes, Upgrades and Node Back- up Activities	30	50	-	20	100	15
TEL/N9109.Follow sustainable practices in telecom infrastructure management	30	50	0	20	100	10
TEL/N9104.Manage Work, Resources and Safety at workplace	40	50	-	10	100	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	5
Total	240	380	0	130	750	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
NCVET	National Council for Vocational Education and Training
QP	Qualification Pack
MC	Model Curriculum
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
NCO	National Classification of Occupations
ES	Employability Skills
TSSC	Telecom Sector Skill Council
AT	Acceptance Test
VSWR	Voltage Standing Wave Ratio
SMPS	Switched-Mode Power Supply
BSS	Base Station Subsystem
BTS	Base Transceiver Station
NOC	Network Operations Centre
SAT	Site Acceptance Testing
DG	Diesel Generators
PIU	Power Interface Unit
PM	Preventive Maintenance
CM	Corrective Maintenance
SLA	Service Level Agreements

Qualification Pack

TRX	Transceiver
NMS	Network Management System
MOP	Maintenance Operation Protocols
CPCB	Central Pollution Control Board

Qualification Pack

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.

Qualification Pack

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 businesses 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.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
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 they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.

Qualification Pack

Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A qualifications Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an Occupational Standard, which is denoted by a OS.
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.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization 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 or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working 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.'