

Qualification Pack



Field Management (FM) Engineer

QP Code: TEL/Q6202

Version: 3.0

NSQF Level: 5

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

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TEL/Q6202: Field Management (FM) Engineer

Brief Job Description

A Field Management (FM) Engineer coordinates with the Network Operation Centre (NOC) and transmission team to ensure a fault-free network through periodic maintenance activities and helps in fault management in case of fault occurrence at radio locations. They are also responsible for accepting new sites from the projects team and for ensuring completion of upgrade/ change activities as required.

Personal Attributes

This job requires the individual to be a team player and possess good communication skills for interacting with third party vendors. They should be physically fit and be able to work on-site and travel frequently. They should be analytical and be able to handle high pressure situations to successfully perform the assigned responsibilities.

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/N9103: Implement Effective Interaction at workplace](#)
7. [TEL/N9104: Manage Work, Resources and Safety at workplace](#)
8. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

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	22
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3114.0701
Minimum Educational Qualification & Experience	<p>Completed 2nd year of UG (UG Diploma) (Completed 2nd year of 3-year/ 4-years UG) OR Pursuing 2nd year of UG (of 3-year/ 4-years UG and continuing education) OR Completed 2nd year diploma after 12th OR Pursuing 2nd year of 2-year diploma after 12th (with no experience required) OR 12th grade Pass (with 2 year of any combination of NTC/NAC/CITS or equivalent with no experience required) OR Completed 3 year diploma after 10th OR 12th grade pass with 1 year NTC/ NAC OR Completed 1st year of UG (UG Certificate) (Completed 1st year of 3-year/ 4-years UG with 1 year relevant experience) OR Previous relevant Qualification of NSQF Level (4) with 3 Years of experience</p>
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Technical training on Active and Passive infrastructure equipment (including transmission equipment) deployed at Radio sites
Minimum Job Entry Age	21 Years
Last Reviewed On	NA
Next Review Date	31/03/2025
NSQF Approval Date	31/03/2022
Version	3.0
Reference code on NQR	QG-05-TL-00460-2023-V1.1-TSSC



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NQR Version	1.1
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TEL/N6208: Undertake Site Acceptance Testing

Description

This OS unit is about carrying out site acceptance testing for the sites handed over by projects to Operations and Maintenance (O&M) team.

Scope

The scope covers the following :

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

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.** obtain checklists to perform site AT from the supervisor and other site documents and specifications from the projects team
- PC2.** check availability and functioning of test equipment required to perform AT
- PC3.** verify that correct software version of the equipment is installed in the laptop and the software is ready to use
- PC4.** supervise completion of physical tests of the site as per the checklist such as physical upkeep, shelter status, weather proofing, equipment grouting, effective cabling, earthing and utilization of connectors
- PC5.** ensure completion of logical tests (VSWR levels, alarm connectivity, equipment connectivity) as per the checklist
- PC6.** coordinate with the infrastructure engineer and the riggers to complete testing of passive infrastructure such as antenna tilt, diesel generator working, battery/SMPS condition

Communicate test results and record

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

- PC7.** inform all relevant parties (including BSS/BTS support engineer, NOC team, other supervisors and the projects) of the test results
- PC8.** communicate to the projects team the remaining punch points that need to be addressed before site handover
- PC9.** update all required documents as per organisational norms and formats
- PC10.** ensure updated documents are available to all appropriate authorities for further inspection

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** use of site acceptance checklist and critical punch points

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- KU2.** functionality of test equipment like E1 tester, ethernet tester, VSWR meter, power meter, optical meter etc.
- KU3.** login cables (RJ45, RS232, and Hi-Speed USB) for different site equipment
- KU4.** software types and versions of BTS and other equipment as well as tools like microwave link
- KU5.** functionality of BTS site active equipment like Microwave, BTS (indoor and outdoor), feeder cables
- KU6.** functionality of passive infrastructure equipment like DG set, PIU panel, Transformer, SMPS, air conditioner, battery bank etc.
- KU7.** types of documentation in organization and importance of the same

Generic Skills (GS)

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

- GS1.** read and interpret necessary documents
- GS2.** be abreast with new/latest technology
- GS3.** use and maintain resources efficiently and effectively
- GS4.** multitask by handling multiple tasks and completing them successfully with due timeline
- GS5.** prioritize and execute tasks in a high-pressure environment
- GS6.** create and maintain effective working relationships and team environment
- GS7.** take initiatives and progressively assume increased responsibilities
- GS8.** maintain proper records as per given format

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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	34	-	6
PC1. obtain checklists to perform site AT from the supervisor and other site documents and specifications from the projects team	4	6	-	1
PC2. check availability and functioning of test equipment required to perform AT	3	6	-	1
PC3. verify that correct software version of the equipment is installed in the laptop and the software is ready to use	4	6	-	1
PC4. supervise completion of physical tests of the site as per the checklist such as physical upkeep, shelter status, weather proofing, equipment grouting, effective cabling, earthing and utilization of connectors	3	5	-	1
PC5. ensure completion of logical tests (VSWR levels, alarm connectivity, equipment connectivity) as per the checklist	3	5	-	1
PC6. coordinate with the infrastructure engineer and the riggers to complete testing of passive infrastructure such as antenna tilt, diesel generator working, battery/SMPS condition	3	6	-	1
<i>Communicate test results and record</i>	15	21	-	4
PC7. inform all relevant parties (including BSS/BTS support engineer, NOC team, other supervisors and the projects) of the test results	4	5	-	1
PC8. communicate to the projects team the remaining punch points that need to be addressed before site handover	3	6	-	1
PC9. update all required documents as per organisational norms and formats	4	5	-	1
PC10. ensure updated documents are available to all appropriate authorities for further inspection	4	5	-	1
NOS Total	35	55	-	10

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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	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

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

Description

This OS unit is about carrying out Preventive Maintenance (PM) and Corrective Maintenance (CM) activities at radio locations to ensure their optimal working.

Scope

The scope covers the following :

- Prepare for Preventive Maintenance (PM)
- Prepare for Corrective Maintenance (CM)
- Arrange for tools and spares
- Carry out Preventive Maintenance (PM)
- Carry out Corrective Maintenance (CM)
- Report and document the status

Elements and Performance Criteria

Prepare for Preventive Maintenance (PM)

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

- PC1.** maintain a site folder containing list of sites, BTS type and number of transceivers
- PC2.** obtain PM schedule and the corresponding checklist from the supervisor
- PC3.** coordinate with Network Operation Centre (NOC) prior to undertake PM activities

Prepare for Corrective Maintenance (CM)

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

- PC4.** assess alarm severity, Service Level Agreements (SLAs) and the affected network elements after obtaining alarm information from the NOC team
- PC5.** provide information to and seek advice from other relevant parties in identifying the cause of the network alarms
- PC6.** prioritize action on alarms based on fault service impact analysis

Arrange for tools and spares

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

- PC7.** arrange for login cables, latest version of equipment specific software and spare hardware equipment like Transceiver (TRX) cards
- PC8.** generate request for spares, in case the same are not available as per organisation policy
- PC9.** implement the process such that faulty equipment are sent to logistics team for repair and replacement

Carry out preventive maintenance activities

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

- PC10.** conduct periodic (monthly, quarterly, half yearly) maintenance activities

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- PC11.** perform completion of physical maintenance tasks such as checking site temperatures, routing of ethernet cables and optical fibers, fan working condition, battery voltage levels, oil filter lubrication in DG set etc.
- PC12.** supervise review of equipment grouting, earthing connections, watering of earthing pit, site matting for insulation, adequacy of wiring
- PC13.** perform completion of logical maintenance tasks like checking alarm status, system availability parameters, logical redundancy
- PC14.** implement process for third party elements that require maintenance such that tickets are raised to the respective vendors by the NOC team if required
- PC15.** perform timely escalation of emergency/unresolved issues according to established company procedure
- PC16.** implement ways for environmental up-keep of sites in coordination with infra engineer and technicians
- PC17.** carry out initial diagnostic tests to identify the root cause of the alarm within the defined Service Level Agreement (SLA)
- PC18.** analyse the options to rectify the fault and confirm with supervisors if required as per company policy
- PC19.** coordinate with infra engineer/ technicians if the alarms are due to passive infrastructure based on the alarm/ other site indicators
- PC20.** use appropriate login cables to login to BTS, IDU (for microwave) in case of non-infra alarm
- PC21.** implement timely completion and rectification of work by monitoring activities/rectification performed by the infra engineer and technicians as per alarm SLA

Test effectiveness, report and record

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

- PC22.** confirm effectiveness of the maintenance process, by monitoring site's alarm status in coordination with the NOC team
- PC23.** ensure completion of administrative jobs like site clearance, return of test equipment
- PC24.** inform all relevant parties (including BSS/BTS support Engineer, NOC team, other supervisors and the projects) of the test results
- PC25.** complete routine maintenance logs, activity logs and spare tracker within stipulated timelines
- PC26.** implement ways to ensure that documents that are required to be updated are identified and updated
- PC27.** ensure that documents are available to all appropriate authorities to inspect

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** functionality of BTS site active equipment like Microwave, BTS (indoor and outdoor), feeder cables etc.
- KU2.** standard preventive maintenance activities that need to be carried out
- KU3.** alarm types, indicators and resolution SLAs/timelines
- KU4.** login cables (RJ45, RS232, and Hi-Speed USB) for different site equipment

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- KU5.** knowledge of spare management and repair and return process for faulty equipment
- KU6.** risk and impact of not following defined procedures/work instructions
- KU7.** functionality of passive infrastructure equipment like DG set, PIU panel, Transformer, SMPS, Air Conditioner, Battery bank etc.
- KU8.** need and requirement of earthing the equipment
- KU9.** mechanism to maintain the earthing pit to absolute zero
- KU10.** alarm types, resolution and remedy
- KU11.** functionality of test equipment like E1 tester, Ethernet tester, VSWR meter, RF power meter, optical meter
- KU12.** escalation matrix for reporting identified incidents, troubles and/ or emergencies e.g. system failures, fire and power failures
- KU13.** process of logging in the BTS site equipment
- KU14.** types of documentation in organization and importance of the same
- KU15.** records to be maintained and implications of non-maintenance of the same

Generic Skills (GS)

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

- GS1.** obtain technical information by researching manufacturer manual
- GS2.** interpret reports, readings and numerical data
- GS3.** handle multiple tasks and complete them successfully in time
- GS4.** prioritize and execute tasks in a high-pressure environment
- GS5.** liaise and coordinate with third party vendors
- GS6.** take initiatives and progressively assume increased responsibilities

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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>	3	8	-	2
PC1. maintain a site folder containing list of sites, BTS type and number of transceivers	1	2	-	1
PC2. obtain PM schedule and the corresponding checklist from the supervisor	1	3	-	-
PC3. coordinate with Network Operation Centre (NOC) prior to undertake PM activities	1	3	-	1
<i>Prepare for Corrective Maintenance (CM)</i>	4	8	-	1
PC4. assess alarm severity, Service Level Agreements (SLAs) and the affected network elements after obtaining alarm information from the NOC team	2	3	-	1
PC5. provide information to and seek advice from other relevant parties in identifying the cause of the network alarms	1	3	-	-
PC6. prioritize action on alarms based on fault service impact analysis	1	2	-	-
<i>Arrange for tools and spares</i>	3	8	-	3
PC7. arrange for login cables, latest version of equipment specific software and spare hardware equipment like Transceiver (TRX) cards	1	2	-	1
PC8. generate request for spares, in case the same are not available as per organisation policy	1	3	-	1
PC9. implement the process such that faulty equipment are sent to logistics team for repair and replacement	1	3	-	1
<i>Carry out preventive maintenance activities</i>	14	24	-	3
PC10. conduct periodic (monthly, quarterly, half yearly) maintenance activities	1	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. perform completion of physical maintenance tasks such as checking site temperatures, routing of ethernet cables and optical fibers, fan working condition, battery voltage levels, oil filter lubrication in DG set etc.	1	2	-	-
PC12. supervise review of equipment grouting, earthing connections, watering of earthing pit, site matting for insulation, adequacy of wiring	1	2	-	-
PC13. perform completion of logical maintenance tasks like checking alarm status, system availability parameters, logical redundancy	1	2	-	-
PC14. implement process for third party elements that require maintenance such that tickets are raised to the respective vendors by the NOC team if required	1	2	-	1
PC15. perform timely escalation of emergency/unresolved issues according to established company procedure	1	2	-	-
PC16. implement ways for environmental up-keep of sites in coordination with infra engineer and technicians	1	2	-	1
PC17. carry out initial diagnostic tests to identify the root cause of the alarm within the defined Service Level Agreement (SLA)	2	2	-	-
PC18. analyse the options to rectify the fault and confirm with supervisors if required as per company policy	2	2	-	-
PC19. coordinate with infra engineer/ technicians if the alarms are due to passive infrastructure based on the alarm/ other site indicators	1	2	-	-
PC20. use appropriate login cables to login to BTS, IDU (for microwave) in case of non-infra alarm	1	2	-	-
PC21. implement timely completion and rectification of work by monitoring activities/rectification performed by the infra engineer and technicians as per alarm SLA	1	2	-	-
<i>Test effectiveness, report and record</i>	6	12	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. confirm effectiveness of the maintenance process, by monitoring site's alarm status in co-ordination with the NOC team	1	2	-	-
PC23. ensure completion of administrative jobs like site clearance, return of test equipment	1	2	-	1
PC24. inform all relevant parties (including BSS/BTS support Engineer, NOC team, other supervisors and the projects) of the test results	1	2	-	-
PC25. complete routine maintenance logs, activity logs and spare tracker within stipulated timelines	1	2	-	-
PC26. implement ways to ensure that documents that are required to be updated are identified and updated	1	2	-	-
PC27. ensure that documents are available to all appropriate authorities to inspect	1	2	-	-
NOS Total	30	60	-	10

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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	3.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

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TEL/N6210: Perform Change Management at Radio Locations

Description

This OS unit is about carrying out change management activities (system upgrade/site capacity augmentation/re-alignment of antenna/physical optimization) at radio locations.

Scope

The scope covers the following :

- Assess upgradation of infrastructure
- Arrange for tools and spares
- Carry out change and monitor post change
- 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.** receive change requests from the relevant teams (NOC, change management, network planning team)
- PC2.** identify activity type to be performed – hardware upgrade, software upgrade, capacity augmentation, antenna re-alignment, microwave back-up
- PC3.** analyse criticality of the issue and timelines for the resolution before carrying out the changes
- PC4.** prepare a work plan and identify dependencies, if any
- PC5.** assess the potential impact of the proposed activity and plan for possible outage condition or deferral of the activity
- PC6.** inform the Network Operation Centre (NOC) prior to undertake the upgradation activity

Arrange for tools and spares

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

- PC7.** ensure that login cables, latest version of equipment specific software and spare hardware equipment like TRX cards are timely available
- PC8.** generate request for spares, in case any spare parts required for change management is not available
- PC9.** perform change management in accordance to organisational process such that faulty equipment/part is sent to the logistics team for repair and/or replacement

Carry out change and monitor post change

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

- PC10.** implement ways to ensure that changes are carried as per the change request
- PC11.** monitor continuously and notify the problems if any to the change requestor
- PC12.** develop a contingency plan in case change management do not occur within the anticipated time to ensure minimum service disruption
- PC13.** comply with the defined Service Level Agreement (SLA) for carrying out changes

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Report and document the status

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

- PC14.** complete all administrative tasks post change management like site clearance, return of test equipment etc.
- PC15.** confirm effectiveness of the maintenance process, by monitoring site's alarm status in co-ordination with the NOC team
- PC16.** notify all relevant parties (including Field Management (FM) Engineer, NOC team, supervisors) of the results of the maintenance result and obtain the sign-off from relevant personnel
- PC17.** identify documents to be updated and to be made available for inspection
- PC18.** complete routine maintenance logs, activity logs and spare tracker within stipulated timeline

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** upgradation activities that need to be carried out
- KU2.** login cables (RJ-45, RS-232, and Hi-Speed USB) for different site equipment
- KU3.** spare management and repair and return process for faulty equipment
- KU4.** functionality of site active equipment like microwave, BTS (indoor and outdoor), feeder cables etc.
- KU5.** risks and impact of not following defined procedures/work instructions
- KU6.** types of documentation in the organisation and importance of the same
- KU7.** records to be maintained and implications of non-maintenance of the same

Generic Skills (GS)

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

- GS1.** interpret reports, readings and numerical data
- GS2.** prioritize and execute tasks in a high-pressure environment
- GS3.** communicate with stakeholders

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assess upgradation of infrastructure</i>	9	21	-	3
PC1. receive change requests from the relevant teams (NOC, change management, network planning team)	2	4	-	1
PC2. identify activity type to be performed - hardware upgrade, software upgrade, capacity augmentation, antenna re-alignment, microwave back-up	2	4	-	-
PC3. analyse criticality of the issue and timelines for the resolution before carrying out the changes	2	4	-	1
PC4. prepare a work plan and identify dependencies, if any	1	3	-	-
PC5. assess the potential impact of the proposed activity and plan for possible outage condition or deferral of the activity	1	3	-	1
PC6. inform the Network Operation Centre (NOC) prior to undertake the upgradation activity	1	3	-	-
<i>Arrange for tools and spares</i>	4	6	-	3
PC7. ensure that login cables, latest version of equipment specific software and spare hardware equipment like TRX cards are timely available	1	2	-	1
PC8. generate request for spares, in case any spare parts required for change management is not available	2	2	-	1
PC9. perform change management in accordance to organisational process such that faulty equipment/part is sent to the logistics team for repair and/or replacement	1	2	-	1
<i>Carry out change and monitor post change</i>	11	15	-	3
PC10. implement ways to ensure that changes are carried as per the change request	3	4	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. monitor continuously and notify the problems if any to the change requestor	2	3	-	1
PC12. develop a contingency plan in case change management do not occur within the anticipated time to ensure minimum service disruption	2	4	-	1
PC13. comply with the defined Service Level Agreement (SLA) for carrying out changes	4	4	-	1
<i>Report and document the status</i>	9	15	-	1
PC14. complete all administrative tasks post change management like site clearance, return of test equipment etc.	3	4	-	1
PC15. confirm effectiveness of the maintenance process, by monitoring site's alarm status in co-ordination with the NOC team	1	2	-	-
PC16. notify all relevant parties (including Field Management (FM) Engineer, NOC team, supervisors) of the results of the maintenance result and obtain the sign-off from relevant personnel	1	2	-	-
PC17. identify documents to be updated and to be made available for inspection	2	4	-	-
PC18. complete routine maintenance logs, activity logs and spare tracker within stipulated timeline	2	3	-	-
NOS Total	33	57	-	10

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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	3.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQF Clearance Date	31/03/2022

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TEL/N6500: Undertake Fault Rectification

Description

This OS unit is about carrying out rectification of faults in the Base Station Sub-system (BSS) network in coordination with the field teams.

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.** use current user id and password to access the alarm management system
- PC2.** monitor network alarms on the NMS and observe the threshold levels to notify occurrence of faults
- PC3.** generate requests/tickets for handling alarms as per the priority matrix
- PC4.** assess alarm severity, priority, Service Level Agreement (SLA) and the affected network elements to take further action
- PC5.** verify fault resolutions involving configuration changes based on previous day's backup of system configuration and alarm logs
- PC6.** coordinate with the infrastructure NOC to verify that the alarm was caused due to faults in the passive infrastructure sites or not
- PC7.** prioritize action on alarms based on faults service impact analysis

Perform fault diagnosis and rectification

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

- PC8.** identify root cause of the alarm and its resolution by referring to pre-defined procedures/methods
- PC9.** determine the cause of the faults using appropriate diagnostic tests like remote analysis of active equipment, in case pre-defined procedures/methods are not available
- PC10.** analyse the options to rectify the fault and confirm the resolution to be used with supervisors, if required as per company policy
- PC11.** check need for system reset and other common fault resolution mechanisms based on the severity and nature of the faults
- PC12.** implement ways to dispatch field engineers to the fault location in case field support is required and give clear instruction for part replacement/fault rectification as per SLA
- PC13.** monitor the activities performed by the infrastructure engineer and technicians

Test effectiveness, report and record the test results

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

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- PC14.** coordinate with NOC team to confirm the effectiveness of maintenance activity by monitoring the site alarm status
- PC15.** ensure completion of administrative jobs like site clearance, return of test equipment, etc. after successful faults rectification and maintenance
- PC16.** inform all relevant parties (including BSS/BTS support engineer, NOC team, other supervisors and the projects) about the test results
- PC17.** complete routine maintenance logs, activity logs and parts/spare tracker within defined time frame post fault rectification and maintenance
- PC18.** implement ways to ensure that documents required are identified and updated
- PC19.** ensure that documents are available to all appropriate authorities to inspect

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the functionality of Network Monitoring System (NMS)
- KU2.** ticketing process and lifecycle of tickets
- KU3.** alarm types, their resolution and remedies defined as per SLAs and escalation matrix
- KU4.** standard fault-finding (troubleshooting) techniques
- KU5.** the functionality of passive infrastructure equipment like DG set, PIU panel, transformer, SMPS, Air Conditioner, battery bank
- KU6.** network topology like ring structure, daisy chain structure and their characteristics
- KU7.** how to interpret Maintenance Operation Protocols (MOPs) to promptly address repeat faults
- KU8.** service networks such as GSM, WCDMA and their related service applications characteristics and capabilities
- KU9.** how to interpret VSWR and E1 test results to localize faults and their rectification steps
- KU10.** types of documentation in organization and importance of the same
- KU11.** records to be maintained and implications of non-maintenance of the same

Generic Skills (GS)

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

- GS1.** communicate in the local language (preferably)
- GS2.** prioritize and execute tasks in a high-pressure environment
- GS3.** use and maintain resources efficiently and effectively
- GS4.** interpret documents related to site maintenance
- GS5.** perform multiple tasks and complete them successfully within due timelines

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Monitor network alarms</i>	9	21	-	5
PC1. use current user id and password to access the alarm management system	1	3	-	1
PC2. monitor network alarms on the NMS and observe the threshold levels to notify occurrence of faults	1	3	-	1
PC3. generate requests/tickets for handling alarms as per the priority matrix	1	3	-	1
PC4. assess alarm severity, priority, Service Level Agreement (SLA) and the affected network elements to take further action	2	3	-	1
PC5. verify fault resolutions involving configuration changes based on previous day's backup of system configuration and alarm logs	1	3	-	-
PC6. coordinate with the infrastructure NOC to verify that the alarm was caused due to faults in the passive infrastructure sites or not	1	3	-	-
PC7. prioritize action on alarms based on faults service impact analysis	2	3	-	1
<i>Perform fault diagnosis and rectification</i>	11	20	-	5
PC8. identify root cause of the alarm and its resolution by referring to pre-defined procedures/methods	2	3	-	1
PC9. determine the cause of the faults using appropriate diagnostic tests like remote analysis of active equipment, in case pre-defined procedures/methods are not available	2	4	-	1
PC10. analyse the options to rectify the fault and confirm the resolution to be used with supervisors, if required as per company policy	3	3	-	1
PC11. check need for system reset and other common fault resolution mechanisms based on the severity and nature of the faults	1	3	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. implement ways to dispatch field engineers to the fault location in case field support is required and give clear instruction for part replacement/fault rectification as per SLA	2	4	-	-
PC13. monitor the activities performed by the infrastructure engineer and technicians	1	3	-	1
<i>Test effectiveness, report and record the test results</i>	10	19	-	-
PC14. coordinate with NOC team to confirm the effectiveness of maintenance activity by monitoring the site alarm status	1	3	-	-
PC15. ensure completion of administrative jobs like site clearance, return of test equipment, etc. after successful faults rectification and maintenance	2	2	-	-
PC16. inform all relevant parties (including BSS/BTS support engineer, NOC team, other supervisors and the projects) about the test results	2	3	-	-
PC17. complete routine maintenance logs, activity logs and parts/spare tracker within defined time frame post fault rectification and maintenance	1	3	-	-
PC18. implement ways to ensure that documents required are identified and updated	2	4	-	-
PC19. ensure that documents are available to all appropriate authorities to inspect	2	4	-	-
NOS Total	30	60	-	10

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	3.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

Qualification Pack

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

Description

This OS unit is about carrying change management and node back-up activities in the BSS network.

Scope

The scope covers the following :

- Determine change requirements
- Carry out change and monitor post change 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.** determine change requirement as per schedule (for back up) or as per directions from other teams (in case of configuration changes, upgrades, updates) and understand the need for change
- PC2.** analyse criticality and timelines for implementing the required changes
- PC3.** prepare a work plan and identify dependencies, if any
- PC4.** assess the potential impact of the proposed activity and plan for possible outage condition or deferral of the activity
- PC5.** inform the Network Operation Centre (NOC) before starting the up-gradation activity
- PC6.** inform the customer and obtain approval in case of service impacting change activity

Carry out change and monitor post change from NOC location

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

- PC7.** perform required changes (configuration change, upgrade activity) as per change work order
- PC8.** obtain the back-up of nodes both pre and post-performance of change activities and as per planned schedule
- PC9.** monitor continuously and notify the problems if any to the change requestor
- PC10.** implement a contingency plan in case of service disruption after aborting the change
- PC11.** comply with the defined Service Level Agreement (SLA) for carrying out changes

Report and document the status

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

- PC12.** coordinate with NOC team to confirm the effectiveness of maintenance process, by monitoring site alarm status
- PC13.** notify all relevant parties (including Field Management (FM) engineer, NOC team, supervisors) about the maintenance result and obtain the sign-off from relevant personnel
- PC14.** ensure the status of change activity is captured in the system and the corresponding ticket is closed

Qualification Pack

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** change request process
- KU2.** escalation matrix for reporting incidents, hazards and/ or emergencies such as system failures, fire and power failures
- KU3.** the functionality of BSC and BTS site equipment like BSC node, BTS (indoor and outdoor), feeder cables (IF, RF cables), microwaves (TDM and IP based), optical fiber cables
- KU4.** the functionality of passive infrastructure equipment like DG set, PIU pane, transformer, SMPS, air conditioner, battery bank
- KU5.** the functionality of Network Monitoring System
- KU6.** risks and impact of not following defined procedures/work instructions

Generic Skills (GS)

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

- GS1.** interpret reports, readings and numerical data
- GS2.** prioritize and execute tasks in a high-pressure environment
- GS3.** communicate with stakeholders in English/local language

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Determine change requirements</i>	13	25	-	4
PC1. determine change requirement as per schedule (for back up) or as per directions from other teams (in case of configuration changes, upgrades, updates) and understand the need for change	3	5	-	1
PC2. analyse criticality and timelines for implementing the required changes	3	4	-	1
PC3. prepare a work plan and identify dependencies, if any	2	4	-	1
PC4. assess the potential impact of the proposed activity and plan for possible outage condition or deferral of the activity	2	4	-	1
PC5. inform the Network Operation Centre (NOC) before starting the up-gradation activity	2	4	-	-
PC6. inform the customer and obtain approval in case of service impacting change activity	1	4	-	-
<i>Carry out change and monitor post change from NOC location</i>	11	22	-	5
PC7. perform required changes (configuration change, upgrade activity) as per change work order	2	4	-	1
PC8. obtain the back-up of nodes both pre and post-performance of change activities and as per planned schedule	3	5	-	1
PC9. monitor continuously and notify the problems if any to the change requestor	2	4	-	1
PC10. implement a contingency plan in case of service disruption after aborting the change	2	5	-	1
PC11. comply with the defined Service Level Agreement (SLA) for carrying out changes	2	4	-	1
<i>Report and document the status</i>	6	13	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. coordinate with NOC team to confirm the effectiveness of maintenance process, by monitoring site alarm status	2	4	-	1
PC13. notify all relevant parties (including Field Management (FM) engineer, NOC team, supervisors) about the maintenance result and obtain the sign-off from relevant personnel	2	5	-	-
PC14. ensure the status of change activity is captured in the system and the corresponding ticket is closed	2	4	-	-
NOS Total	30	60	-	10

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	3.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

Qualification Pack

TEL/N9103: Implement Effective Interaction at workplace

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Interact effectively with superiors

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

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

Interact effectively with colleagues and customers

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

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

Respect differences of gender and ability

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

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

Qualification Pack

PC18. respect personal space of colleagues and co-workers

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

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

Qualification Pack

Assessment Criteria

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

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

Qualification Pack

National Occupational Standards (NOS) Parameters

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

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

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- 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

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- 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

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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	NA
Next Review Date	31/03/2025
NSQC Clearance Date	31/03/2022

Qualification Pack

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:

Qualification Pack

- 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.

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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



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- 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

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. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	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	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	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	-	-	-	-
<i>Basic English Skills</i>	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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

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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	-	-	-	-
<i>Communication Skills</i>	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	-	-	-	-
<i>Diversity & Inclusion</i>	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	-	-	-	-
<i>Financial and Legal Literacy</i>	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	-	-	-	-
<i>Essential Digital Skills</i>	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	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	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	-	-	-	-
<i>Customer Service</i>	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	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	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	-	-

Qualification Pack

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	NA
Next Review Date	27/05/2024
NSQC Clearance Date	27/05/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

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	35	55	-	10	100	15
TEL/N6209.Perform Preventive and Corrective Maintenance at Radio Locations	30	60	-	10	100	15
TEL/N6210.Perform Change Management at Radio Locations	33	57	-	10	100	15
TEL/N6500.Undertake Fault Rectification	30	60	-	10	100	15
TEL/N6501.Undertake Configuration Changes, Upgrades and Node Back-up Activities	30	60	-	10	100	10
TEL/N9103.Implement Effective Interaction at workplace	30	60	-	10	100	10
TEL/N9104.Manage Work, Resources and Safety at workplace	40	50	-	10	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	248	432	-	70	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
AMF Panel	Auto Main Failure Panel
BSS	Base Station Sub-system
BTS	Base Transceiver Station
DG	Diesel Generator
EB connection	Electricity Board Connection
FM Engineer	Field Management Engineer
IF cable	Intermediate Frequency cable
MCB	Miniature Circuit Breaker
O&M	Operations and Maintenance
OHS	Organizational Health and Safety
PIU	Power Interface unit
RF cable	Radio Frequency Cable
SHE	Safety Health and Environment
SMPS	Switch Mode Power Supply
VSWR	Voltage Standing Wave Ratio

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.'