



Optical Fiber Technician

QP Code: TEL/Q6401

Version: 4.0

NSQF Level: 4

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

Qualification Pack

Contents

TEL/Q6401: Optical Fiber Technician	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
TEL/N4137: Coordinate Installation and Commissioning of Optical Fiber Cables (OFCs)	5
TEL/N6403: Undertake Condition based Maintenance and Planned Repair Activities	14
TEL/N6404: Perform Corrective Maintenance/Restoration of Optical Fiber Faults	21
TEL/N9101: Organize Work and Resources as per Health and Safety Standards	27
TEL/N9102: Interact Effectively with Team Members and Customers	34
DGT/VSQ/N0102: Employability Skills (60 Hours)	39
Assessment Guidelines and Weightage	46
<i>Assessment Guidelines</i>	46
<i>Assessment Weightage</i>	47
Acronyms	48
Glossary	49

Qualification Pack

TEL/Q6401: Optical Fiber Technician

Brief Job Description

The individual in this job coordinates the activities for installation and commissioning of Optical Fiber Cables (OFCs) and maintains the up-time and quality of the network segment (both optical media & equipment) by undertaking periodic preventive maintenance activities and ensuring effective fault management in case of fault occurrence.

Personal Attributes

This individual in this job is required to be a team player with analytical and problem-solving skills, an effective communicator with expertise in local language to deal with local labor and capable of working in high-pressure situations in field which may consists of difficult terrain.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [TEL/N4137: Coordinate Installation and Commissioning of Optical Fiber Cables \(OFCs\)](#)
2. [TEL/N6403: Undertake Condition based Maintenance and Planned Repair Activities](#)
3. [TEL/N6404: Perform Corrective Maintenance/Restoration of Optical Fiber Faults](#)
4. [TEL/N9101: Organize Work and Resources as per Health and Safety Standards](#)
5. [TEL/N9102: Interact Effectively with Team Members and Customers](#)
6. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
Country	India
NSQF Level	4

Qualification Pack

Credits	18
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.0801
Minimum Educational Qualification & Experience	11th grade pass OR Completed 1st year of 3-year diploma (after 10th) and pursuing regular diploma OR 10th grade pass and pursuing continuous schooling OR 10th grade pass with 2 Years of experience OR Previous relevant Qualification of NSQF Level (3 with minimum education as 5th Grade pass with 2 year relevant experience)
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	NA
Next Review Date	30/12/2024
NSQC Approval Date	30/12/2021
Version	4.0
Reference code on NQR	2022/TEL/TSSC/07005
NQR Version	2

Qualification Pack

TEL/N4137: Coordinate Installation and Commissioning of Optical Fiber Cables (OFCs)

Description

This OS unit is about coordinating activities like trenching and laying of cables for installation and commissioning of Optical Fiber Cables (OFCs) and testing the joints for effective transmission.

Scope

The scope covers the following :

- Carry out inspection of route plan
- Coordinate cable laying and pulling
- Test effectiveness and close the activity
- Follow Health and Safety related to fiber operations
- Report and record installation status of OFCs

Elements and Performance Criteria

Carry out inspection of route plan

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

- PC1.** obtain OFC route plan from the planning team or the supervisors
- PC2.** verify the proposed route to ensure that bend ratios meet manufacturer's specifications and industry standards
- PC3.** develop installation work plan and identify dependencies, if any
- PC4.** determine the statutory permissions required and the relevant authorities involved
- PC5.** liaise with the concerned authorities to obtain relevant clearances
- PC6.** determine the best suited optical fiber mode (Single Mode or Multi Mode) as per the location of the project

Coordinate cable laying and pulling

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

- PC7.** arrange tools and spares for installation
- PC8.** confirm placement of cable drum near the site location
- PC9.** test the cable on drum for optical continuity
- PC10.** ensure trenching is carried out by labor workers as per the detailed route plan requirements and site terrain
- PC11.** ensure minimum radius is maintained, where bends are necessary
- PC12.** ascertain usage of special designed dispensers to place the ducts in the trench as straight as possible
- PC13.** assess the depths of the pipe/ ducts as per the laying standards after approval from competent personnel
- PC14.** verify the ducts are free from twists and collapsed portions and ensure rectification of all such portions using appropriate couplers

Qualification Pack

- PC15.** check proper uncoiling of PLB (permanently lubricated) ducts
- PC16.** examine duct joints for airtightness to ensure smooth cable blowing using cable blowing machines
- PC17.** ascertain carrying out the cable blowing/ jetting using rodder as per the standard process
- PC18.** ensure availability of additional cable length (loop) at jointing locations, for future use in case of failures
- PC19.** confirm that the ends of the ducts are closed with end plugs to avoid ingress of mud, water or dust
- PC20.** examine that the entire length of the duct is cleaned to remove sand and dust that may damage the optical fiber cable
- PC21.** check the cables are appropriately prepared for jointing based on color and/ or sequence matching
- PC22.** determine alignment errors during splicing of optical fibers
- PC23.** assess any drop in signal due to attenuation
- PC24.** verify the cables are spliced as per the standard fusion/ mechanical splicing mechanisms
- PC25.** ascertain usage of proper protection material for cables such as GI (galvanised iron) pipes, RCC (reinforced cement concrete) pipes, RCC half cut pipes etc.
- PC26.** ensure use of push fit couplers as duct joints
- PC27.** confirm usage of appropriate optical connectors as per the terminating equipment requirements
- PC28.** check ducts to confirm requirement of additional protection like cover of RCC pipes, chambering and concreting based on site location and terrain
- PC29.** ensure completion of installation activity within the defined SLAs (Service Level Agreements)
- PC30.** monitor activities performed by the labor workers and optical splicers for timely completion of work
- PC31.** escalate instance of delay as per organization policy

Test effectiveness and close the activity

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

- PC32.** determine the availability of test equipment like Optical Time Domain Reflectometer (OTDR) and power meter for carrying out optical tests
- PC33.** use appropriate colour for route and joint indicators as per the standards
- PC34.** check the splices are within quality assurance/AT standards
- PC35.** identify instances of cross fiber using power source and power meter tests and ensure their elimination
- PC36.** test the joint for transmission loss and strength and re-terminate it if the transmission loss exceeds the manufacturer specifications
- PC37.** ensure backfilling and crowning in coordination with the labour workers as per standard requirements
- PC38.** confirm placement of a stone marker at the jointing pit for identification of route and jointing pit
- PC39.** check cables markings for appropriateness as per the guidelines
- PC40.** update as-build documents based on joint location and installed fiber route
- PC41.** clear site from debris and other items

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Follow Health and Safety related to fiber operations

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

- PC42.** comply with site risk control, OHS (Occupation Health and Safety), environmental and quality and legal requirements as per organization norms
- PC43.** confirm use of personal protective equipment like helmets, knee pads, safety boots, safety glasses and trench guards as per standards
- PC44.** establish environmental conditions and hazards like Earth Potential Rise (EPR) while carrying out the work
- PC45.** ascertain adherence to emergency plans in case of safety incidents

Report and record installation status of OFCs

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

- PC46.** ensure cable id/drum numbers are recorded for future fault localization
- PC47.** document the OTDR report and summary of tests and share with appropriate teams
- PC48.** obtain sign-off from the projects team and communicate status to NOC for cable integration
- PC49.** ensure all documents available for appropriate authorities to inspect

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard reporting and documentation procedure of the organization
- KU2.** standards OHS (Occupation Health and Safety) regulations
- KU3.** quality assurance and Acceptance Testing (AT) standards
- KU4.** standard procedure for disposal of cut fibers and other waste material
- KU5.** procedure of developing installation work plan
- KU6.** types of clearances/municipal approvals required for the installation work
- KU7.** spare part management process
- KU8.** repair and return process for faulty equipment
- KU9.** correct usage of different personal protective equipment to be used
- KU10.** precautionary measures for electrical, chemical and environmental related hazards
- KU11.** usage of fire safety equipment
- KU12.** first aid treatment in case of electrical shocks, cuts, fall and other common injuries
- KU13.** principles of optical transport media and OFC communication
- KU14.** characteristics of optical fiber like refraction, polarization, attenuation and dispersion
- KU15.** characteristics of wavelength bands in optical fiber
- KU16.** signal strength and quality Key Performance Indicators (KPIs) of OFCs
- KU17.** functioning of optical equipment like cleaver, mechanical and fusion splicing kit, protection sleeves, fiber stripper, fiber reinforced plaster during splicing and jointing
- KU18.** working of optical test equipment like OTDR and power meter
- KU19.** optimal values of OTDR, Power meter and light meter test results
- KU20.** the utility of as-build route diagrams
- KU21.** as-build documentation procedure

Qualification Pack

- KU22.** standard trenching, cable laying, pit preparation, splicing, jointing, blowing and back-filling process for installation of OFCs
- KU23.** types of OFC connectors based on the type of equipment
- KU24.** procedure for sealing joints, heat shrinking/multi-diameter seals/mechanical seals etc.

Generic Skills (GS)

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

- GS1.** read and understand manuals, work orders, health and safety instructions, memos, reports etc.
- GS2.** fill up appropriate technical forms, activity logs in required format of the organisation
- GS3.** maintain proper records as per organisation standards
- GS4.** liaise and coordinate with authorities and third party vendors
- GS5.** manage labour workers and get the required work done on a day-to-day basis
- GS6.** communicate effectively with supervisor and peers
- GS7.** communicate in the local language (preferably)
- GS8.** handle and complete multiple within timelines
- GS9.** use and maintain resources efficiently and effectively
- GS10.** share knowledge with other team members and colleagues

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out inspection of route plan</i>	4	7	-	5
PC1. obtain OFC route plan from the planning team or the supervisors	-	1	-	1
PC2. verify the proposed route to ensure that bend ratios meet manufacturer's specifications and industry standards	-	2	-	1
PC3. develop installation work plan and identify dependencies, if any	1	1	-	-
PC4. determine the statutory permissions required and the relevant authorities involved	1	1	-	1
PC5. liaise with the concerned authorities to obtain relevant clearances	1	1	-	1
PC6. determine the best suited optical fiber mode (Single Mode or Multi Mode) as per the location of the project	1	1	-	1
<i>Coordinate cable laying and pulling</i>	15	17	-	5
PC7. arrange tools and spares for installation	-	1	-	-
PC8. confirm placement of cable drum near the site location	1	1	-	-
PC9. test the cable on drum for optical continuity	-	1	-	-
PC10. ensure trenching is carried out by labor workers as per the detailed route plan requirements and site terrain	1	1	-	-
PC11. ensure minimum radius is maintained, where bends are necessary	-	1	-	-
PC12. ascertain usage of special designed dispensers to place the ducts in the trench as straight as possible	-	1	-	-
PC13. assess the depths of the pipe/ ducts as per the laying standards after approval from competent personnel	-	1	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. verify the ducts are free from twists and collapsed portions and ensure rectification of all such portions using appropriate couplers	1	1	-	-
PC15. check proper uncoiling of PLB (permanently lubricated) ducts	-	1	-	-
PC16. examine duct joints for airtightness to ensure smooth cable blowing using cable blowing machines	1	-	-	-
PC17. ascertain carrying out the cable blowing/ jetting using rodder as per the standard process	1	-	-	-
PC18. ensure availability of additional cable length (loop) at jointing locations, for future use in case of failures	-	1	-	1
PC19. confirm that the ends of the ducts are closed with end plugs to avoid ingress of mud, water or dust	1	1	-	-
PC20. examine that the entire length of the duct is cleaned to remove sand and dust that may damage the optical fiber cable	1	-	-	-
PC21. check the cables are appropriately prepared for jointing based on color and/ or sequence matching	-	1	-	-
PC22. determine alignment errors during splicing of optical fibers	1	1	-	1
PC23. assess any drop in signal due to attenuation	1	-	-	1
PC24. verify the cables are spliced as per the standard fusion/ mechanical splicing mechanisms	1	-	-	-
PC25. ascertain usage of proper protection material for cables such as GI (galvanised iron) pipes, RCC (reinforced cement concrete) pipes, RCC half cut pipes etc.	-	1	-	-
PC26. ensure use of push fit couplers as duct joints	1	-	-	-
PC27. confirm usage of appropriate optical connectors as per the terminating equipment requirements	1	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. check ducts to confirm requirement of additional protection like cover of RCC pipes, chambering and concreting based on site location and terrain	1	-	-	-
PC29. ensure completion of installation activity within the defined SLAs (Service Level Agreements)	-	1	-	-
PC30. monitor activities performed by the labor workers and optical splicers for timely completion of work	1	1	-	1
PC31. escalate instance of delay as per organization policy	1	1	-	1
<i>Test effectiveness and close the activity</i>	9	11	-	5
PC32. determine the availability of test equipment like Optical Time Domain Reflectometer (OTDR) and power meter for carrying out optical tests	1	-	-	-
PC33. use appropriate colour for route and joint indicators as per the standards	1	1	-	-
PC34. check the splices are within quality assurance/AT standards	1	1	-	-
PC35. identify instances of cross fiber using power source and power meter tests and ensure their elimination	1	1	-	1
PC36. test the joint for transmission loss and strength and re-terminate it if the transmission loss exceeds the manufacturer specifications	1	1	-	1
PC37. ensure backfilling and crowning in coordination with the labour workers as per standard requirements	-	1	-	1
PC38. confirm placement of a stone marker at the jointing pit for identification of route and jointing pit	1	1	-	1
PC39. check cables markings for appropriateness as per the guidelines	1	1	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC40. update as-build documents based on joint location and installed fiber route	1	2	-	1
PC41. clear site from debris and other items	1	2	-	-
<i>Follow Health and Safety related to fiber operations</i>	4	5	-	4
PC42. comply with site risk control, OHS (Occupation Health and Safety), environmental and quality and legal requirements as per organization norms	1	1	-	1
PC43. confirm use of personal protective equipment like helmets, knee pads, safety boots, safety glasses and trench guards as per standards	1	1	-	1
PC44. establish environmental conditions and hazards like Earth Potential Rise (EPR) while carrying out the work	1	1	-	1
PC45. ascertain adherence to emergency plans in case of safety incidents	1	2	-	1
<i>Report and record installation status of OFCs</i>	3	5	-	1
PC46. ensure cable id/drum numbers are recorded for future fault localization	1	1	-	1
PC47. document the OTDR report and summary of tests and share with appropriate teams	1	1	-	-
PC48. obtain sign-off from the projects team and communicate status to NOC for cable integration	1	2	-	-
PC49. ensure all documents available for appropriate authorities to inspect	-	1	-	-
NOS Total	35	45	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N4137
NOS Name	Coordinate Installation and Commissioning of Optical Fiber Cables (OFCs)
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	4
Credits	5
Version	2.0
Last Reviewed Date	NA
Next Review Date	30/12/2024
NSQC Clearance Date	30/12/2021

Qualification Pack

TEL/N6403: Undertake Condition based Maintenance and Planned Repair Activities

Description

This OS unit is about carrying out planned maintenance testing and repairs and conducting condition-based maintenance of equipment deployed at POPs (Point of Presence).

Scope

The scope covers the following :

- Obtain maintenance schedule and patrol assigned route
- Carry out maintenance testing of dark/spare Optical Fiber Cables (OFCs)
- Repair OFCs as per plan
- Carry out maintenance of equipment at Points of Presence (POPs)
- Report to concerned authorities and record fiber test results

Elements and Performance Criteria

Obtain maintenance schedule and patrol assigned route

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

- PC1.** obtain as-build drawing from NOC/supervisors and identify the route assigned for maintenance of Optical Fiber Cables (OFCs)
- PC2.** ensure patrolling and surveillance of OFCs route as per the maintenance plan
- PC3.** monitor the jobs undertaken by other agencies in the vicinity of the network to ensure the safety of OFCs.
- PC4.** coordinate with authorities regarding any planned construction/activity in the vicinity of the OFCs
- PC5.** ensure sample check of as-build drawings
- PC6.** communicate any changes made to as-build drawings to the NOC/supervisors for updating the document

Carry out planned maintenance testing of dark/spare Optical Fiber Cables (OFCs)

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

- PC7.** ensure availability of optical test tools like Optical Time Domain Reflectometer (OTDR), Power meter, Light meter etc.
- PC8.** check performance of OTDR and power meter tests for all the dark/spare fibers as per required periodicity
- PC9.** test end-to-end link for adherence to link budget and identify loss and reflection points
- PC10.** advise planning team for developing route strengthening workplan based on test results

Repair OFCs as per plan

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

- PC11.** arrange outage for carrying out activity by coordinating with Network Operation Centre (NOC) prior to undertake the planned repair activities

Qualification Pack

- PC12.** ensure completion of planned repair activities within defined timelines
- PC13.** conduct optical tests on spare fibers to confirm effectiveness of the planned repair process
- PC14.** ensure taking precautions with regard to the power launched on to the fiber, in case active fibers are used for testing
- PC15.** escalate instances of delays and emergency/unresolved issues according to established organisation procedure

Carry out maintenance of equipment at Points of Presence (POPs)

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

- PC16.** conduct periodic (monthly, quarterly, half yearly) maintenance activities
- PC17.** maintain co-located electronic equipment and ensure testing of alarms in coordination with NOC
- PC18.** ensure active fibers are not disturbed while testing
- PC19.** carry out planned repairs on existing joints and terminations in co-ordination with NCC (Network Color Code) for improvement of link margin
- PC20.** ensure raising of the tickets to the respective vendors by the NOC for the maintenance of third party elements

Report to concerned authorities and record fiber test results

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

- PC21.** ensure completion of OFC/OTDR register with record of all fiber tests
- PC22.** maintain account of diesel oil at respective stations
- PC23.** ensure maintenance of assets register for sites under supervision
- PC24.** dispatch OTDR test results to supervisors for planning and monitoring of OFCs
- PC25.** ensure availability of the documents to all appropriate authorities for inspection

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organisation reporting and documentation procedures
- KU2.** SOP for maintenance of equipment
- KU3.** concept and elements of as-build drawing
- KU4.** procedure to maintain task specific documentation (Patrolling register, OTDR register, etc.)
- KU5.** standard maintenance process for OFCs and Synchronous Transport Modules (STMs)
- KU6.** types of testing and repair procedures of the equipment
- KU7.** procedure of physical maintenance tasks
- KU8.** characteristics of Optical fibers (refraction, polarization, attenuation, dispersion, etc.)
- KU9.** principles of optical transport media and OFC communication
- KU10.** bands in optical fiber and their usability and loss characteristics
- KU11.** signal strength and quality KPIs of optical fiber cables
- KU12.** optimal values of OTDR, power meter and light meter test results
- KU13.** the standard trenching, cable laying, pit preparation, splicing, jointing, blowing and back-filling process for installation of OFC cables

Qualification Pack

KU14. types of OFC connectors

Generic Skills (GS)

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

- GS1.** read manuals, work orders, health and safety instructions, etc.
- GS2.** fill up appropriate technical forms and activity logs in required format of the organisation
- GS3.** maintain proper records as per prescribed format
- GS4.** liaise and coordinate with authorities and third party vendors
- GS5.** communicate with supervisor and peers
- GS6.** communicate in the local language (preferably)
- GS7.** prioritize and execute tasks in a high-pressure environment and handle high pressure situations
- GS8.** handle multiple tasks and complete them successfully within timelines
- GS9.** use and maintain resources efficiently and effectively
- GS10.** create and maintain effective working relationships and team environment
- GS11.** share knowledge with other team members and colleagues
- GS12.** utilize appropriate communication channels to escalate unresolved problems to relevant personnel

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Obtain maintenance schedule and patrol assigned route</i>	5	13	-	4
PC1. obtain as-build drawing from NOC/supervisors and identify the route assigned for maintenance of Optical Fiber Cables (OFCs)	1	2	-	-
PC2. ensure patrolling and surveillance of OFCs route as per the maintenance plan	1	2	-	1
PC3. monitor the jobs undertaken by other agencies in the vicinity of the network to ensure the safety of OFCs.	1	3	-	1
PC4. coordinate with authorities regarding any planned construction/activity in the vicinity of the OFCs	1	2	-	1
PC5. ensure sample check of as-build drawings	1	2	-	1
PC6. communicate any changes made to as-build drawings to the NOC/supervisors for updating the document	-	2	-	-
<i>Carry out planned maintenance testing of dark/spare Optical Fiber Cables (OFCs)</i>	5	10	-	4
PC7. ensure availability of optical test tools like Optical Time Domain Reflectometer (OTDR), Power meter, Light meter etc.	1	3	-	1
PC8. check performance of OTDR and power meter tests for all the dark/spare fibers as per required periodicity	1	3	-	1
PC9. test end-to-end link for adherence to link budget and identify loss and reflection points	1	2	-	1
PC10. advise planning team for developing route strengthening workplan based on test results	2	2	-	1
<i>Repair OFCs as per plan</i>	4	12	-	4
PC11. arrange outage for carrying out activity by coordinating with Network Operation Centre (NOC) prior to undertake the planned repair activities	-	3	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure completion of planned repair activities within defined timelines	1	2	-	1
PC13. conduct optical tests on spare fibers to confirm effectiveness of the planned repair process	1	2	-	1
PC14. ensure taking precautions with regard to the power launched on to the fiber, in case active fibers are used for testing	1	2	-	1
PC15. escalate instances of delays and emergency/unresolved issues according to established organisation procedure	1	3	-	-
<i>Carry out maintenance of equipment at Points of Presence (POPs)</i>	6	12	-	4
PC16. conduct periodic (monthly, quarterly, half yearly) maintenance activities	1	3	-	2
PC17. maintain co-located electronic equipment and ensure testing of alarms in coordination with NOC	1	2	-	1
PC18. ensure active fibers are not disturbed while testing	1	3	-	-
PC19. carry out planned repairs on existing joints and terminations in co-ordination with NCC (Network Color Code) for improvement of link margin	1	2	-	1
PC20. ensure raising of the tickets to the respective vendors by the NOC for the maintenance of third party elements	2	2	-	-
<i>Report to concerned authorities and record fiber test results</i>	5	8	-	4
PC21. ensure completion of OFC/OTDR register with record of all fiber tests	1	1	-	1
PC22. maintain account of diesel oil at respective stations	1	2	-	-
PC23. ensure maintenance of assets register for sites under supervision	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. dispatch OTDR test results to supervisors for planning and monitoring of OFCs	1	2	-	1
PC25. ensure availability of the documents to all appropriate authorities for inspection	1	1	-	2
NOS Total	25	55	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6403
NOS Name	Undertake Condition based Maintenance and Planned Repair Activities
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	4
Credits	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	30/12/2024
NSQC Clearance Date	30/12/2021

Qualification Pack

TEL/N6404: Perform Corrective Maintenance/Restoration of Optical Fiber Faults

Description

This OS unit is about carrying out corrective maintenance/fault management of Optical Fiber Cables (OFCs) in a timely manner to ensure network availability and high-quality network transmission.

Scope

The scope covers the following :

- Handle fault notifications promptly
- Rectify the fault at Points of Presence (POPs)
- Report and document the status

Elements and Performance Criteria

Handle fault notifications promptly

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

- PC1.** receive fault notifications from Network Operation Center (NOC)/supervisors
- PC2.** obtain Turn Around Time (TAT) for fault rectifications as defined in Service Level Agreements (SLAs)
- PC3.** obtain latest as-built drawing from the NOC/supervisors

Rectify the fault at POP (point of presence) location

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

- PC4.** make available test equipment (Optical Time Domain Reflectometer (OTDR), Power meter, etc.) for carrying out optical tests
- PC5.** identify exact fault location using OTDR tests on fiber at POP location
- PC6.** analyze as-built drawing to locate the physical site on the ground
- PC7.** coordinate excavation, pulling of appropriate cables (if feasible) and preparation of jointing pit at site through laborers
- PC8.** coordinate with the optical splicer to carry out splicing as per standard process
- PC9.** assess effectiveness of the jointing activity by reviewing OTDR and power test results
- PC10.** ensure joints are protected and strengthened appropriately using couplers, sleeves and FRPs (Fiber Reinforced Plastic) as required
- PC11.** verify if ducts require additional protection like cover of Reinforced Cement Concrete (RCC) pipes, chambering, etc. based on site location and terrain
- PC12.** coordinate back-filling of the trench through laborers
- PC13.** ensure rectification of network problem/fault alarms within SLA
- PC14.** monitor activities for timely completion of work by laborers and Optical Splicers
- PC15.** ensure compliance with the organisation policy while escalating unresolved faults/instances of delays

Report and document the status

Qualification Pack

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

- PC16.** ensure appropriate cable marking and route marker for direction and route identification
- PC17.** prepare jointing record for future reference
- PC18.** ensure identification of the documents to be updated
- PC19.** ascertain completion of OTDR register showing complete record of jointing tests

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organisation reporting and documentation procedures
- KU2.** Standards Operating Procedures (SOPs) for maintenance of equipment
- KU3.** concept and elements of as-build drawing
- KU4.** functionality of optical test equipment (OTDR and power meter, etc.)
- KU5.** optimal test values of OTDR, Power meter and light meter, etc.
- KU6.** standard trenching, cable laying, pit preparation, splicing, jointing, blowing and back-filling process for installation of OFCs
- KU7.** fault diagnosis and rectification procedures for the equipment
- KU8.** standard process and need for performing duct integrity tests like air tightness tests and kink free tests
- KU9.** cable and route marking procedure and conventions
- KU10.** characteristics of Optical fiber like refraction, polarization, attenuation and dispersion
- KU11.** different types of OFCs connectors based on the type of equipment
- KU12.** functioning of optical equipment like cleaver, mechanical and fusion splicing kit, protection sleeves, fiber stripper, fiber reinforced plaster during splicing and jointing
- KU13.** signal strength and quality Key Performance Indicators (KPIs) of OFCs
- KU14.** procedure to maintain and update task specific documentation like OTDR register etc.

Generic Skills (GS)

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

- GS1.** read manuals, work orders, health and safety instructions, etc.
- GS2.** fill up appropriate technical forms and activity logs in required format of the organisation
- GS3.** maintain proper records as per prescribed format
- GS4.** communicate with supervisor and peers
- GS5.** communicate in the local language (preferably)
- GS6.** prioritize and execute tasks in a high-pressure environment and handle high pressure situations
- GS7.** handle multiple tasks and complete them successfully within timelines
- GS8.** use resources efficiently and effectively
- GS9.** maintain effective working relationships and team environment



Qualification Pack

- GS10.** share knowledge with other team members and colleagues
- GS11.** utilize appropriate communication channels to escalate unresolved problems to relevant personnel

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Handle fault notifications promptly</i>	5	5	-	-
PC1. receive fault notifications from Network Operation Center (NOC)/supervisors	1	2	-	-
PC2. obtain Turn Around Time (TAT) for fault rectifications as defined in Service Level Agreements (SLAs)	2	1	-	-
PC3. obtain latest as-built drawing from the NOC/supervisors	2	2	-	-
<i>Rectify the fault at POP (point of presence) location</i>	25	30	-	15
PC4. make available test equipment (Optical Time Domain Reflectometer (OTDR), Power meter, etc.) for carrying out optical tests	5	5	-	4
PC5. identify exact fault location using OTDR tests on fiber at POP location	5	2	-	1
PC6. analyze as-built drawing to locate the physical site on the ground	1	2	-	1
PC7. coordinate excavation, pulling of appropriate cables (if feasible) and preparation of jointing pit at site through laborers	2	1	-	1
PC8. coordinate with the optical splicer to carry out splicing as per standard process	1	3	-	1
PC9. assess effectiveness of the jointing activity by reviewing OTDR and power test results	1	3	-	1
PC10. ensure joints are protected and strengthened appropriately using couplers, sleeves and FRPs (Fiber Reinforced Plastic) as required	2	2	-	1
PC11. verify if ducts require additional protection like cover of Reinforced Cement Concrete (RCC) pipes, chambering, etc. based on site location and terrain	1	4	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. coordinate back-filling of the trench through laborers	2	2	-	1
PC13. ensure rectification of network problem/fault alarms within SLA	1	3	-	1
PC14. monitor activities for timely completion of work by laborers and Optical Splicers	2	2	-	1
PC15. ensure compliance with the organisation policy while escalating unresolved faults/instances of delays	2	1	-	1
<i>Report and document the status</i>	5	10	-	5
PC16. ensure appropriate cable marking and route marker for direction and route identification	1	2	-	1
PC17. prepare jointing record for future reference	2	2	-	1
PC18. ensure identification of the documents to be updated	1	3	-	1
PC19. ascertain completion of OTDR register showing complete record of jointing tests	1	3	-	2
NOS Total	35	45	-	20

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6404
NOS Name	Perform Corrective Maintenance/Restoration of Optical Fiber Faults
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	4
Credits	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	30/12/2024
NSQC Clearance Date	30/12/2021

Qualification Pack

TEL/N9101: Organize Work and Resources as per Health and Safety Standards

Description

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

Scope

The scope covers the following :

- Perform work as per quality standards
- Maintain safe, healthy and secure working environment
- Conserve material/energy/electricity
- Use effective waste management/recycling practices

Elements and Performance Criteria

Perform work as per quality standards

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

- PC1.** keep workspace clean and tidy
- PC2.** perform individual role and responsibilities as per the job role while taking accountability for the work
- PC3.** record/document tasks completed as per the requirements within specific timelines
- PC4.** implement schedules to ensure timely completion of tasks
- PC5.** identify the cause of a problem related to own work and validate it
- PC6.** analyse problems accurately and communicate different possible solutions to the problem

Maintain safe, healthy and secure working environment

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

- PC7.** comply with organisation's current health, safety, security policies and procedures
- PC8.** check for water spills in and around the work space and escalate these to the appropriate authority
- PC9.** report any identified breaches in health, safety, and security policies and procedures to the designated person
- PC10.** use safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc.
- PC11.** avoid damage of components due to negligence in ESD procedures or any other loss due to safety negligence
- PC12.** identify 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
- PC13.** participate regularly in fire drills or other safety related workshops organised by the company
- 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

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- PC15.** maintain appropriate posture while sitting/standing for long hours
- PC16.** handle heavy and hazardous materials with care, while maintaining appropriate posture
- PC17.** sanitize workstation and equipment regularly
- PC18.** clean hands with soap, alcohol-based sanitizer regularly
- PC19.** avoid contact with anyone suffering from communicable diseases and take necessary precautions
- PC20.** take safety precautions while travelling e.g. maintain 1m distance from others, sanitize hands regularly, wear masks, etc.
- PC21.** report hygiene and sanitation issues to appropriate authority
- PC22.** follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing, using PPE, etc.

Conserve material/energy/electricity

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

- PC23.** optimize usage of material including water in various tasks/activities/processes
- PC24.** use resources such as water, electricity and others responsibly
- PC25.** carry out routine cleaning of tools, machine and equipment
- PC26.** optimize use of electricity/energy in various tasks/activities/processes
- PC27.** perform periodic checks of the functioning of the equipment/machine and rectify wherever required
- PC28.** report malfunctioning and lapses in maintenance of equipment
- PC29.** use electrical equipment and appliances properly

Use effective waste management/recycling practices

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

- PC30.** identify recyclable, non-recyclable and hazardous waste
- PC31.** deposit recyclable and reusable material at identified location
- PC32.** dispose non-recyclable and hazardous waste as per recommended processes

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** strategies pertinent to their field (such as internet searches, asking peers and managers, enrolling for courses and certifications, etc.) that can be used to pursue an advancement in their 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.** escalation matrix and its importance, especially in case of emergencies
- KU7.** ways of time and cost management
- KU8.** rules/regulation for maintaining health and safety at workplace

Qualification Pack

- KU9.** meaning of hazard, different types of health and safety hazards found in the workplace, risks and threats based on the nature of work
- KU10.** relevant signage, warnings, labels or descriptions on equipment, etc. while carrying out work activities
- KU11.** procedures to report breaches in health, safety and security
- KU12.** organisation's procedures for different emergency situations and the importance of following the same
- KU13.** different methods of cleaning, disinfection, sterilization, and sanitization
- KU14.** significance of personal hygiene practice including hand hygiene
- KU15.** path of disease transmission
- KU16.** correct method of donning and doffing of PPE
- KU17.** ways of managing resources and material efficiently
- KU18.** common electrical problems and common practices of conserving electricity
- KU19.** categorization of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics and use of different colours of dustbins
- KU20.** organisation's procedures for minimizing waste
- KU21.** waste management and methods of waste disposal
- KU22.** common sources of pollution and ways to minimize it

Generic Skills (GS)

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

- GS1.** improve and modify work practices
- GS2.** complete tasks efficiently and accurately within stipulated time
- GS3.** develop skills and mastery of the technologies prevalent in the industry
- GS4.** write in at least one language and complete written work with attention to detail
- GS5.** utilize time and manage workload efficiently
- GS6.** read and comprehend instructions and documents
- GS7.** accept feedback in a constructive way
- GS8.** seek clarifications from superior about the job requirement
- GS9.** read and comprehend statutory documents relevant to safety and hygiene
- GS10.** refer all anomalies to the concerned persons
- GS11.** analyze situations and make appropriate decisions
- GS12.** decide the most suitable course of action for completing the task within resources

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform work as per quality standards</i>	4	9	-	2
PC1. keep workspace clean and tidy	-	1	-	-
PC2. perform individual role and responsibilities as per the job role while taking accountability for the work	1	1	-	1
PC3. record/document tasks completed as per the requirements within specific timelines	-	1	-	1
PC4. implement schedules to ensure timely completion of tasks	-	2	-	-
PC5. identify the cause of a problem related to own work and validate it	2	2	-	-
PC6. analyse problems accurately and communicate different possible solutions to the problem	1	2	-	-
<i>Maintain safe, healthy and secure working environment</i>	16	27	-	4
PC7. comply with organisation's current health, safety, security policies and procedures	1	1	-	-
PC8. check for water spills in and around the work space and escalate these to the appropriate authority	1	2	-	1
PC9. report any identified breaches in health, safety, and security policies and procedures to the designated person	1	2	-	1
PC10. use safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc.	1	2	-	1
PC11. avoid damage of components due to negligence in ESD procedures or any other loss due to safety negligence	2	3	-	1
PC12. identify 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	2	1	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. participate regularly in fire drills or other safety related workshops organised by the company	1	3	-	-
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	1	3	-	-
PC15. maintain appropriate posture while sitting/standing for long hours	1	1	-	-
PC16. handle heavy and hazardous materials with care, while maintaining appropriate posture	1	1	-	-
PC17. sanitize workstation and equipment regularly	1	2	-	-
PC18. clean hands with soap, alcohol-based sanitizer regularly	-	1	-	-
PC19. avoid contact with anyone suffering from communicable diseases and take necessary precautions	-	1	-	-
PC20. take safety precautions while travelling e.g. maintain 1m distance from others, sanitize hands regularly, wear masks, etc.	1	2	-	-
PC21. report hygiene and sanitation issues to appropriate authority	1	1	-	-
PC22. follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing, using PPE, etc.	1	1	-	-
<i>Conserve material/energy/electricity</i>	7	16	-	3
PC23. optimize usage of material including water in various tasks/activities/processes	1	2	-	-
PC24. use resources such as water, electricity and others responsibly	1	2	-	1
PC25. carry out routine cleaning of tools, machine and equipment	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. optimize use of electricity/energy in various tasks/activities/processes	1	3	-	1
PC27. perform periodic checks of the functioning of the equipment/machine and rectify wherever required	1	3	-	1
PC28. report malfunctioning and lapses in maintenance of equipment	1	2	-	-
PC29. use electrical equipment and appliances properly	1	2	-	-
<i>Use effective waste management/recycling practices</i>	3	8	-	1
PC30. identify recyclable, non-recyclable and hazardous waste	1	2	-	1
PC31. deposit recyclable and reusable material at identified location	1	3	-	-
PC32. dispose non-recyclable and hazardous waste as per recommended processes	1	3	-	-
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N9101
NOS Name	Organize Work and Resources as per Health and Safety Standards
Sector	Telecom
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

Qualification Pack

TEL/N9102: Interact Effectively with Team Members and Customers

Description

This OS unit is about interacting 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.** receive work requirements from superiors and customers and interpret them correctly
- PC2.** inform the supervisor and/or concerned person about any unforeseen disruptions or delays
- PC3.** participate in decision making by providing facts and figures, giving/accepting constructive suggestions
- PC4.** rectify errors as per feedback and ensure the errors are not repeated

Interact effectively with colleagues and customers

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

- PC5.** comply with organisation's policies and procedures for working with team members
- PC6.** communicate professionally using appropriate mode of communication such as face-to-face, telephonic and written
- PC7.** respond to queries and seek/provide clarifications if required
- PC8.** co-ordinate with team to integrate work as per requirements
- PC9.** resolve conflicts within the team/with customers to achieve smooth workflow
- PC10.** recognize emotions accurately in self and others to build good relationships
- PC11.** prioritize team and organization goals above personal goals

Respect differences of gender and ability

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

- PC12.** maintain a conducive environment for all the genders at the workplace
- PC13.** encourage appropriate behavior and conduct with people across gender
- PC14.** assist team members with disability in overcoming any challenges faced in work
- PC15.** practice appropriate verbal and non-verbal communication while interacting with People with Disability (PwD)
- PC16.** ensure equal participation of the people across genders in discussions

Knowledge and Understanding (KU)

Qualification Pack

The individual on the job needs to know and understand:

- KU1.** organisation's policies on dress code, workplace timings, workplace behaviour, performance management, incentives, delivery standards, information security, etc.
- KU2.** organisation's hierarchy and escalation matrix
- KU3.** importance of establishing good working relationships with colleagues and superiors
- KU4.** importance of helping colleagues with problems, in order to meet quality and time standards as a team
- KU5.** different means and methods of communication
- KU6.** different types of information that colleagues might need and the importance of providing this information in an appropriate manner
- KU7.** organisation's policies and procedures for working with colleagues and superiors
- KU8.** importance of understanding consequences of gender biased 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.** process of recruiting people for a particular job profile w.r.t PwD and gender
- KU13.** 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.** read and comprehend forms, documents and records
- GS2.** read and write in English and/or local language
- GS3.** complete work with attention to detail
- GS4.** listen effectively and orally communicate information
- GS5.** work as per customer requirements
- GS6.** communicate with empathy across genders and PwD
- GS7.** improve and modify work practices
- GS8.** maintain positive and effective relationships with colleagues and customers
- GS9.** 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>	7	15	-	2
PC1. receive work requirements from superiors and customers and interpret them correctly	1	2	-	-
PC2. inform the supervisor and/or concerned person about any unforeseen disruptions or delays	2	4	-	1
PC3. participate in decision making by providing facts and figures, giving/accepting constructive suggestions	2	5	-	1
PC4. rectify errors as per feedback and ensure the errors are not repeated	2	4	-	-
<i>Interact effectively with colleagues and customers</i>	7	26	-	4
PC5. comply with organisation's policies and procedures for working with team members	1	2	-	-
PC6. communicate professionally using appropriate mode of communication such as face-to-face, telephonic and written	2	4	-	1
PC7. respond to queries and seek/provide clarifications if required	2	4	-	1
PC8. co-ordinate with team to integrate work as per requirements	-	3	-	-
PC9. resolve conflicts within the team/with customers to achieve smooth workflow	1	5	-	1
PC10. recognize emotions accurately in self and others to build good relationships	1	4	-	-
PC11. prioritize team and organization goals above personal goals	-	4	-	1
<i>Respect differences of gender and ability</i>	11	24	-	4
PC12. maintain a conducive environment for all the genders at the workplace	2	5	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. encourage appropriate behavior and conduct with people across gender	2	5	-	1
PC14. assist team members with disability in overcoming any challenges faced in work	3	4	-	1
PC15. practice appropriate verbal and non-verbal communication while interacting with People with Disability (PWD)	2	4	-	1
PC16. ensure equal participation of the people across genders in discussions	2	6	-	-
NOS Total	25	65	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N9102
NOS Name	Interact Effectively with Team Members and Customers
Sector	Telecom
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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.

Qualification Pack

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

Qualification Pack

- 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	-	-

Qualification Pack

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	17/11/2025
NSQC Clearance Date	17/11/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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

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/N4137.Coordinate Installation and Commissioning of Optical Fiber Cables (OFCs)	35	45	-	20	100	20
TEL/N6403.Undertake Condition based Maintenance and Planned Repair Activities	25	55	-	20	100	20
TEL/N6404.Perform Corrective Maintenance/Restoration of Optical Fiber Faults	35	45	-	20	100	20
TEL/N9101.Organize Work and Resources as per Health and Safety Standards	30	60	-	10	100	15
TEL/N9102.Interact Effectively with Team Members and Customers	25	65	-	10	100	15
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	170	300	-	80	550	100

Qualification Pack

Acronyms

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

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.