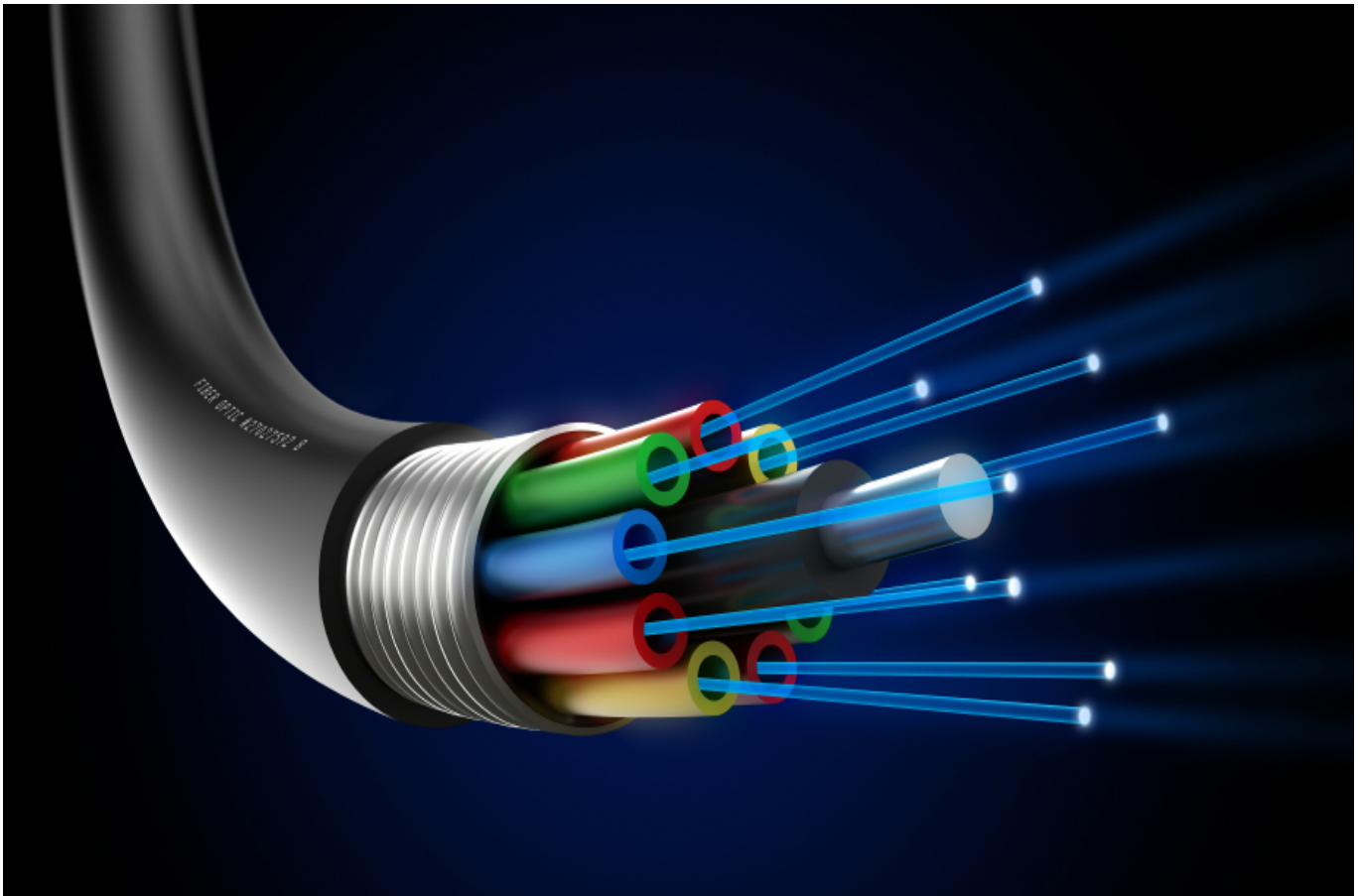# Fiber to-the Home (FTTH/X) Installer

QP Code: TEL/Q4200

Version: 3.0

NSQF Level: 3

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

Contents

Qualification Pack

TEL/Q4200: Fiber to-the Home (FTTH/X) Installer

Brief Job Description

An individual in this job role will undertake on-ground implementation of fiber cabling from drop point Optical Line Test Set (OLTS) to the last mile connectivity i.e. customer premise (termination point). The work will include fiber splicing and termination at every distribution point. The work will follow the structured cabling norms and compliance to telecommunication cabling guidelines on the subject.

Personal Attributes

Good inter-personal skills, on-site problem-solving, eye for details, attention to compliance to work instructions and parameters and clear communication skills to interact with team members and higher-ups are required for the role.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. TEL/N4128: Outside Plant Cable Installation Procedures and Practices

2. TEL/N6400: Splice Optical Fiber

3. TEL/N4200: Installation of Passive FTTH/X components

4. TEL/N4201: In-building FTTH/X cabling

5. TEL/N4131: Work Safety Practices with Fiber Optics

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

7. TEL/N9102: Interact Effectively with Team Members and Customers

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

Qualification Pack (QP) Parameters

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

NSQF Level	3
Credits	15
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.0803
Minimum Educational Qualification & Experience	10th grade pass OR 8th grade pass (with two year of (NTC/ NAC) after 8th) OR 8th grade pass (and pursuing continuous schooling in regular school with No Experience required) OR 9th grade pass with 1 Year of experience OR Previous relevant Qualification of NSQF Level (2) with 3 Years of experience
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	15 Years
Last Reviewed On	NA
Next Review Date	24/02/2025
NSQC Approval Date	24/02/2022
Version	3.0
Reference code on NQR	QG-03-TL-00455-2023-V1.1-TSSC
NQR Version	1.1

TEL/N4128: Outside Plant Cable Installation Procedures and Practices

Description

This OS unit is about outside plant installation procedures and practices for optical fiber cables.

Scope

The scope covers the following :

- Pre-installation checks and processes
- Direct buried installation
- Underground (duct) installation
- Aerial installation

Elements and Performance Criteria

Pre-installation checks and processes

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

PC1. carry out pre-construction survey of the cable placing route and identify all probable pit-falls and account for them

PC2. perform pre-test of optical cable using an OTDR

PC3. undertake pre-installation cable inspection to identify any visible damage or non-compliances

PC4. confirm basic parameters like maximum pulling tension, bending radius, total cable length, splicing length required at termination points

PC5. demonstrate duct rodding, testing and cleaning process/procedure

Direct buried installation

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

PC6. select appropriate cable for direct buried (single jacket, dual jacket) as per site requirements

PC7. demonstrate armor bonding and grounding

PC8. handle cable while bending and placing tension

PC9. perform cable laying and trench compacting practices and placement of markers

PC10. carry out reinstatements

Underground (duct) installation

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

PC11. demonstrate best practices in duct cable pulling using proper tools and accessories (pulling rope, cable pulling grip, breakaway swivel)

PC12. demonstrate cable reel positioning and pulling

PC13. demonstrate 'figure-8' winding/storing of cable

PC14. perform cable blowing process (wing compressed air)

PC15. test duct integration, duct fill ratio, co-efficient of friction and their effect on cable laying/longevity

Aerial installation

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

PC16. demonstrate specific construction of aerial cables making them suitable for such deployment

PC17. demonstrate cable handling practices for aerial cables (bending radius, placing tension)

PC18. demonstrate use and uniqueness of messenger strand

PC19. demonstrate deployment and use of self-supporting cables

PC20. demonstrate deployment process for aerial cable

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. work and time management

KU2. risk and impact of not following defined procedures/work instructions

KU3. escalation matrix for reporting identified incidents, troubles and/or emergencies, e.g. system failures, fire and power failures

KU4. clearances/in-building authority approvals that are required prior to carry out the installation work

KU5. Safety Health and Environment (SHE) and Occupational Health and Safety (OHS) guidelines and regulations as per company norms

KU6. various types of optical fiber cable constructs

KU7. suitability of deployment of optical fiber cables given a specific requirement

KU8. importance of safe/correct handling and negative effects on exceeding parameters like bend radius etc

KU9. handling of key equipment and their characteristics (blowing equipment, cable pulling tools etc)

KU10. need for proper trenching, ducting, aerial messages/supports and best practices

Generic Skills (GS)

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

GS1. read and interpret necessary documents

GS2. read and understand manuals, requirement documents, operational health and safety instructions, memos, reports etc.

GS3. read and comprehend/understand material specifications

GS4. communicate with colleagues, peers and supervisor

GS5. liaise and coordinate with third party vendors/other stakeholders

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Pre-installation checks and processes	**6**	**12**	**-**	**3**
PC1. carry out pre-construction survey of the cable placing route and identify all probable pit-falls and account for them	2	1	-	1
PC2. perform pre-test of optical cable using an OTDR	2	3	-	1
PC3. undertake pre-installation cable inspection to identify any visible damage or non-compliances	-	5	-	1
PC4. confirm basic parameters like maximum pulling tension, bending radius, total cable length, splicing length required at termination points	2	1	-	-
PC5. demonstrate duct rodding, testing and cleaning process/procedure	-	2	-	-
Direct buried installation	**6**	**14**	**-**	**2**
PC6. select appropriate cable for direct buried (single jacket, dual jacket) as per site requirements	3	2	-	1
PC7. demonstrate armor bonding and grounding	1	2	-	1
PC8. handle cable while bending and placing tension	-	4	-	-
PC9. perform cable laying and trench compacting practices and placement of markers	-	4	-	-
PC10. carry out reinstatements	2	2	-	-
Underground (duct) installation	**4**	**21**	**-**	**2**
PC11. demonstrate best practices in duct cable pulling using proper tools and accessories (pulling rope, cable pulling grip, breakaway swivel)	-	3	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. demonstrate cable reel positioning and pulling	2	5	-	-
PC13. demonstrate 'figure-8' winding/storing of cable	-	4	-	1
PC14. perform cable blowing process (wing compressed air)	-	6	-	-
PC15. test duct integration, duct fill ratio, co-efficient of friction and their effect on cable laying/longevity	2	3	-	-
Aerial installation	**14**	**13**	**-**	**3**
PC16. demonstrate specific construction of aerial cables making them suitable for such deployment	4	5	-	1
PC17. demonstrate cable handling practices for aerial cables (bending radius, placing tension)	3	3	-	1
PC18. demonstrate use and uniqueness of messenger strand	3	2	-	1
PC19. demonstrate deployment and use of self-supporting cables	2	2	-	-
PC20. demonstrate deployment process for aerial cable	2	1	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N4128
NOS Name	Outside Plant Cable Installation Procedures and Practices
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	3
Credits	3
Version	3.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

TEL/N6400: Splice Optical Fiber

Description

This OS unit is about preparing and carrying out efficient optical splicing.

Scope

The scope covers the following :

- Ensure availability of tools and spares
- Prepare cable for splicing for new installation
- Carry out maintenance of the laid Optical Fiber Cables (OFCs)
- Perform splicing operations

Elements and Performance Criteria

Ensure availability of tools and spares

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

PC1. ensure availability of optical cable test equipment (Optical Time Domain Reflectometer (OTDR), power meter, etc.)

PC2. confirm availability of optical equipment (spool, joint closure, connectors, splicer and cleaver)

PC3. check availability of joint kits, pigtails, patch cords, FDF (Fiber Distribution Frame), ODB (Optical Distribution Box) connector, protection sleeves and heat shrink

PC4. send faulty equipment to the logistics team for repair or replacement

PC5. ensure availability of RCC (Reinforced Cement Concrete) joint chambers with covers and adequate sand as per specifications

PC6. confirm availability of one spare cable drum for emergency replacement of laid cables

PC7. ensure calibration status of the equipment to be perform (e.g. splicing machine, OTDR, power meter, cleaver)

Prepare cable for splicing for new installation

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

PC8. identify exact location and fiber/fiber group for which the splicing is to be done as per network route and connectivity plan

PC9. inspect cable for sheath damage visually

PC10. dismantle/install the fiber joint box/splitter box carefully

PC11. ensure maintenance of minimum bend ratios as per manufacturer specifications to prevent cable damage and signal degradation

PC12. secure cable in accordance with the industry practices to avoid cable and sheath damage

PC13. determine appropriate fibers to be joined based on color coding and sequence

PC14. identify an appropriate place for the joint chamber location

PC15. clean fiber as per manufacturer specifications

Carry out maintenance of the laid Optical Fiber Cables (OFCs)

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

PC16. identify the route/fiber and location where splicing/maintenance needs to be done in coordination with Fiber Technician/Operation and Maintenance (O&M) team

PC17. arrange outage exclusion time (maintenance window timeline) for the fiber and route in consultation with O&M team

PC18. visit the site to identify the exact location and fiber/fiber group for which the splicing is to be done

PC19. expose the fiber fault point (by digging for trenched fiber, or opening manholes etc., as required

PC20. inspect cable for sheath damage visually

PC21. dismantle/install the fiber joint box/splitter box carefully

PC22. ensure to maintain minimum bend ratios as per manufacturer specifications to prevent cable damage and signal degradation

PC23. secure cable in accordance with the industry practice to avoid cable and sheath damage

PC24. determine appropriate fibers to be joined based on color coding and sequence

PC25. identify an appropriate place for the joint chamber location

PC26. clean the fiber as per manufacturer specifications

Perform splicing operations

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

PC27. strip cables at areas where splicing has to be performed

PC28. cleave fiber with a precision cleaver

PC29. inspect cleaved fiber ends with magnifier to ensure appropriateness

PC30. insert fiber strands to the fusion machine in accordance with the product/equipment specifications in case of fusion splicing

PC31. align fibers together by a precision-made sleeve and place the prepared fiber in mechanical splicing kit in case of mechanical splicing

PC32. use proper splice protectors like heat shrink splice protectors to protect the splice

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. spare part management process

KU2. repair and return process for faulty equipment

KU3. characteristics of Optical fiber like refraction, polarization, attenuation and dispersion

KU4. characteristics of wavelength bands in optical fiber

KU5. signal strength and quality Key Performance Indicators (KPIs) of OFCs

KU6. color coding of fiber optic cable

KU7. principles of optical transport media

KU8. types of OFC connectors

KU9. functioning of optical equipment like cleaver, mechanical and fusion splicing kit, protection sleeves, fiber stripper, fiber reinforced plaster during splicing and jointing

KU10. alignment errors during splicing of optical fibers like Lateral, Axial, Angular and Poor end finish

KU11. 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. fill up standard technical forms and activity logs

GS2. maintain proper records in the prescribed format

GS3. communicate with supervisor and peers

GS4. communicate in the local language (preferably)

GS5. maintain effective working relationships

GS6. use resources efficiently and effectively

GS7. execute tasks in a high-pressure environment

GS8. be flexible and accept changes in job requirements, schedules, or work environments

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Ensure availability of tools and spares	**11**	**19**	**-**	**2**
PC1. ensure availability of optical cable test equipment (Optical Time Domain Reflectometer (OTDR), power meter, etc.)	1	2	-	1
PC2. confirm availability of optical equipment (spool, joint closure, connectors, splicer and cleaver)	1	3	-	-
PC3. check availability of joint kits, pigtails, patch cords, FDF (Fiber Distribution Frame), ODB (Optical Distribution Box) connector, protection sleeves and heat shrink	2	3	-	1
PC4. send faulty equipment to the logistics team for repair or replacement	2	3	-	-
PC5. ensure availability of RCC (Reinforced Cement Concrete) joint chambers with covers and adequate sand as per specifications	2	3	-	-
PC6. confirm availability of one spare cable drum for emergency replacement of laid cables	1	2	-	-
PC7. ensure calibration status of the equipment to be perform (e.g. splicing machine, OTDR, power meter, cleaver)	2	3	-	-
Prepare cable for splicing for new installation	**9**	**16**	**-**	**3**
PC8. identify exact location and fiber/fiber group for which the splicing is to be done as per network route and connectivity plan	1	3	-	-
PC9. inspect cable for sheath damage visually	1	2	-	1
PC10. dismantle/install the fiber joint box/splitter box carefully	1	2	-	-
PC11. ensure maintenance of minimum bend ratios as per manufacturer specifications to prevent cable damage and signal degradation	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. secure cable in accordance with the industry practices to avoid cable and sheath damage	1	2	-	1
PC13. determine appropriate fibers to be joined based on color coding and sequence	3	1	-	-
PC14. identify an appropriate place for the joint chamber location	1	3	-	-
PC15. clean fiber as per manufacturer specifications	-	1	-	-
Carry out maintenance of the laid Optical Fiber Cables (OFCs)	**10**	**13**	**-**	**3**
PC16. identify the route/fiber and location where splicing/maintenance needs to be done in coordination with Fiber Technician/Operation and Maintenance (O&M) team	1	1	-	-
PC17. arrange outage exclusion time (maintenance window timeline) for the fiber and route in consultation with O&M team	1	1	-	-
PC18. visit the site to identify the exact location and fiber/fiber group for which the splicing is to be done	1	1	-	1
PC19. expose the fiber fault point (by digging for trenched fiber, or opening manholes etc., as required	1	1	-	-
PC20. inspect cable for sheath damage visually	1	3	-	1
PC21. dismantle/install the fiber joint box/splitter box carefully	1	1	-	1
PC22. ensure to maintain minimum bend ratios as per manufacturer specifications to prevent cable damage and signal degradation	1	1	-	-
PC23. secure cable in accordance with the industry practice to avoid cable and sheath damage	-	1	-	-
PC24. determine appropriate fibers to be joined based on color coding and sequence	2	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. identify an appropriate place for the joint chamber location	1	1	-	-
PC26. clean the fiber as per manufacturer specifications	-	1	-	-
Perform splicing operations	**5**	**7**	**-**	**2**
PC27. strip cables at areas where splicing has to be performed	1	1	-	-
PC28. cleave fiber with a precision cleaver	1	1	-	1
PC29. inspect cleaved fiber ends with magnifier to ensure appropriateness	-	1	-	1
PC30. insert fiber strands to the fusion machine in accordance with the product/equipment specifications in case of fusion splicing	1	2	-	-
PC31. align fibers together by a precision-made sleeve and place the prepared fiber in mechanical splicing kit in case of mechanical splicing	1	1	-	-
PC32. use proper splice protectors like heat shrink splice protectors to protect the splice	1	1	-	-
NOS Total	**35**	**55**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6400
NOS Name	Splice Optical Fiber
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	3
Credits	2
Version	5.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

TEL/N4200: Installation of Passive FTTH/X components

Description

This OS unit is about installation of passive FTTH/X components like splitters and undertaking basic installation checks.

Scope

The scope covers the following :

- Installation of passive FTTH/X components (Splitter)
- Perform terminal connections (single incoming/multiple outgoing)
- Undertake power test

Elements and Performance Criteria

Installation of passive FTTH/X components (Splitter)

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

PC1. identify components of passive devices (splitters)

PC2. demonstrate installation practices for wall mount splitters (1x8, 1x16, 1x32)

PC3. identify feeder and distribution ports on the devices

Perform terminal connections (single incoming/multiple outgoing)

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

PC4. identify feeder and distribution cables/pigtails

PC5. demonstrate feeder and distribution connections

Undertake power test

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

PC6. demonstrate insertion loss testing of optical splitters (olts and light source)

PC7. demonstrate power output measurement at output port by use of power meter and light source (using olts & light source)

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. risk and impact of not following defined procedures/work instructions

KU2. escalation matrix for reporting identified incidents, troubles and/or emergencies e.g. system failures, fire and power failures

KU3. types of documentation in organization and importance of the same

KU4. records to be maintained and implications of non-maintenance of the same

KU5. spare management and repair and return process for faulty equipment

KU6. Safety Health and Environment (SHE) and Occupational Health and Safety (OHS) guidelines and regulations as per company norms

KU7. passive network components and their deployment environment

KU8. principle of operation of optical splitters

KU9. concept of feeder and distribution connections in a splitter

KU10. types of optical splitters and relative features/limitations

Generic Skills (GS)

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

GS1. fill up standard technical forms and activity logs

GS2. maintain records and process documents

GS3. read and comprehend technical literature/parameters/performance graphs

GS4. read manuals, health and safety Instructions, memos, reports etc.

GS5. communicate with colleagues, peers and customers/stakeholders

GS6. liaise and coordinate with third party vendors or other stakeholders

GS7. plan and organize the work to achieve compliances and results

GS8. read customer interaction protocol

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Installation of passive FTTH/X components (Splitter)	**16**	**21**	**-**	**4**
PC1. identify components of passive devices (splitters)	5	5	-	1
PC2. demonstrate installation practices for wall mount splitters (1x8, 1x16, 1x32)	7	8	-	2
PC3. identify feeder and distribution ports on the devices	4	8	-	1
Perform terminal connections (single incoming/multiple outgoing)	**10**	**14**	**-**	**2**
PC4. identify feeder and distribution cables/pigtails	5	6	-	1
PC5. demonstrate feeder and distribution connections	5	8	-	1
Undertake power test	**9**	**20**	**-**	**4**
PC6. demonstrate insertion loss testing of optical splitters (olts and light source)	5	9	-	2
PC7. demonstrate power output measurement at output port by use of power meter and light source (using olts & light source)	4	11	-	2
NOS Total	**35**	**55**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N4200
NOS Name	Installation of Passive FTTH/X components
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Network (Passive) Installation
NSQF Level	3
Credits	2
Version	4.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

TEL/N4201: In-building FTTH/X cabling

Description

This OS unit is about in-building installation of fiber cables for FTTH/X deployment and the end termination at ONT (Optical Network Terminal). The start point is from the OSP (outside plant) fiber landing point in the building. The in-building routing can be through pre-existing/installed horizontal/vertical cable trays through building ducts or paths and/or through pre-existing/installed conduits, up to the ONT termination and further up to the Telecommunication Outlet (TO) in the customer premise.

Scope

The scope covers the following :

- Cable installation through cable trays (horizontal/vertical)
- Cable installation through conduits
- Cable installation through false ceiling
- Terminations at ONT and TO

Elements and Performance Criteria

Cable installation through cable trays (horizontal/vertical)

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

PC1. inspect the site as per building lay-out plan

PC2. identify the cabling path from the outdoor fiber landing point (in the building premises) up to the intended ont installation point (this to include both the cable tray as well as conduit runs)

PC3. calculate the horizontal and vertical cable length, accounting for the slack to be maintained

PC4. ascertain the pre-existing load and post installation load compliance of the cable trays

PC5. ascertain and account for existing cable services on the cable trays (power cables, other data/voice cables etc.)

PC6. lay the fiber along the identified tray tracks using appropriate cable pulling method

PC7. secure the fiber along the cable tray ensuring proper slack management (especially for the vertical run)

Cable installation through conduits

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

PC8. demonstrate fiber pulling through conduit using appropriate technique and tools (pulling through strength member and using correct tools like fish tape)

PC9. demonstrate proper coiling and securing of excess fiber (approx. 3 meter) at the termination end

Cable installation through false ceiling

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

PC10. demonstrate cable installation through false ceiling, using figure 8 method

PC11. demonstrate cable installation through conduits on false ceiling

Terminations at ONT and TO

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

PC12. demonstrate fiber termination and connectorisation at ONT

PC13. demonstrate fiber termination at TO

PC14. demonstrate powering and configuring of ONT

PC15. test installed ONT using IP network

PC16. undertake VFL (Visual Fault Locator) for the installed fiber run

PC17. test the live fiber using fiber detection meter

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. risk and impact of not following defined procedures/work instructions

KU2. escalation matrix for reporting identified incidents, troubles and/ or emergencies e.g. system failures, fire and power failures

KU3. types of documentation in organization and importance of the same

KU4. records to be maintained and implications of non-maintenance of the same

KU5. knowledge of spare management and repair & return process for faulty equipment

KU6. Safety Health and Environment (SHE) and Occupational Health and Safety (OHS) guidelines and regulations as per company norms

KU7. fiber optic cable types and characteristics for in-building deployments

KU8. basic knowledge of electrical and electronic components

KU9. fiber handling practices (bend radius)

KU10. fiber cable components (strength members, cable sheath, core, cladding etc.)

KU11. fusion splicing

KU12. VLF principal and testing features

KU13. importance and use of fiber pulling tools/equipment (fish tape)

KU14. importance and relevance of managing cable slack and cable management

KU15. documentation practices

Generic Skills (GS)

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

GS1. read and interpret necessary documents

GS2. read and understand manuals, requirement documents, operational health and safety instructions, memos, reports etc.

GS3. read and comprehend/understand material specifications

GS4. communicate with colleagues, peers and supervisor

GS5. liaise and coordinate with third party vendors/other stakeholders

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Cable installation through cable trays (horizontal/vertical)	**10**	**22**	**-**	**3**
PC1. inspect the site as per building lay-out plan	-	4	-	-
PC2. identify the cabling path from the outdoor fiber landing point (in the building premises) up to the intended ont installation point (this to include both the cable tray as well as conduit runs)	2	5	-	1
PC3. calculate the horizontal and vertical cable length, accounting for the slack to be maintained	5	-	-	-
PC4. ascertain the pre-existing load and post installation load compliance of the cable trays	2	1	-	1
PC5. ascertain and account for existing cable services on the cable trays (power cables, other data/voice cables etc.)	-	4	-	-
PC6. lay the fiber along the identified tray tracks using appropriate cable pulling method	1	3	-	1
PC7. secure the fiber along the cable tray ensuring proper slack management (especially for the vertical run)	-	5	-	-
Cable installation through conduits	**4**	**9**	**-**	**1**
PC8. demonstrate fiber pulling through conduit using appropriate technique and tools (pulling through strength member and using correct tools like fish tape)	2	5	-	1
PC9. demonstrate proper coiling and securing of excess fiber (approx. 3 meter) at the termination end	2	4	-	-
Cable installation through false ceiling	**4**	**10**	**-**	**2**
PC10. demonstrate cable installation through false ceiling, using figure 8 method	2	5	-	1
PC11. demonstrate cable installation through conduits on false ceiling	2	5	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Terminations at ONT and TO	**12**	**19**	**-**	**4**
PC12. demonstrate fiber termination and connectorisation at ONT	3	5	-	1
PC13. demonstrate fiber termination at TO	-	5	-	1
PC14. demonstrate powering and configuring of ONT	2	3	-	-
PC15. test installed ONT using IP network	2	2	-	1
PC16. undertake VFL (Visual Fault Locator) for the installed fiber run	3	2	-	1
PC17. test the live fiber using fiber detection meter	2	2	-	-
NOS Total	**30**	**60**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N4201
NOS Name	In-building FTTH/X cabling
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Network (Passive) Installation
NSQF Level	3
Credits	2
Version	4.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

TEL/N4131: Work Safety Practices with Fiber Optics

Description

This OS unit is about work safety practices whilst working with fiber optics.

Scope

The scope covers the following :

- Work safety practices whilst working with fiber optics

Elements and Performance Criteria

Work safety practices whilst working with fiber optics

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

PC1. demonstrate eye-safety measures whilst at work
PC2. demonstrate safe handling of bare fiber (broken ends of fiber and scraps)
PC3. demonstrate fire safety practices (whilst working with high voltage arc in fusion splicers)
PC4. demonstrate electrical safety norms where fiber is placed along with electrical cables
PC5. adhere to laser safety rules
PC6. demonstrate use of safety gloves and boots, in required situations
PC7. complete any health and safety records legibly and accurately

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. manufacturer supplied MSDS for safe handling of fiber
KU2. legislative requirements and organizations procedures for health, safety and security and role and responsibilities
KU3. different types of health and safety hazards that can be found in the workplace
KU4. limits of your responsibility for dealing with hazards
KU5. different emergency situations and the importance of following emergency procedures
KU6. the importance of maintaining high standards of health, safety and security
KU7. implications that any non compliance with health, safety and security may have on individuals and the organization
KU8. construction of the fiber and protection of fiber from outside environment
KU9. safety features of protective equipment and gear
KU10. limitations of safety gear
KU11. government agencies in the area of safety, health and security and their norms andservices along with their contact detail
KU12. layout of associated services in the work area (gas pipeline, electrical cables, sewagelines, water pipeline etc) so as to avoid consequential damage

Generic Skills (GS)

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

GS1. read and interpret necessary documents

GS2. read and understand manuals, requirement documents, operational health and safety instructions, memos, reports etc.

GS3. read and comprehend/understand material specifications

GS4. communicate with colleagues, peers and supervisor

GS5. liaise and coordinate with third party vendors/other stakeholders

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work safety practices whilst working with fiber optics	**40**	**50**	**-**	**10**
PC1. demonstrate eye-safety measures whilst at work	4	9	-	1
PC2. demonstrate safe handling of bare fiber (broken ends of fiber and scraps)	6	9	-	2
PC3. demonstrate fire safety practices (whilst working with high voltage arc in fusion splicers)	4	9	-	2
PC4. demonstrate electrical safety norms where fiber is placed along with electrical cables	6	8	-	1
PC5. adhere to laser safety rules	8	5	-	1
PC6. demonstrate use of safety gloves and boots, in required situations	6	5	-	1
PC7. complete any health and safety records legibly and accurately	6	5	-	2
NOS Total	**40**	**50**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N4131
NOS Name	Work Safety Practices with Fiber Optics
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
NSQF Level	3
Credits	2
Version	3.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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

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

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform work as per quality standards	**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	-	-
Maintain safe, healthy and secure working environment	**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	-	-

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	-	-
Conserve material/energy/electricity	**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	-	-
Use effective waste management/recycling practices	**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**

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	27/01/2025
NSQC Clearance Date	27/01/2022

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)

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact effectively with superiors	**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	-	-
Interact effectively with colleagues and customers	**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
Respect differences of gender and ability	**11**	**24**	**-**	**4**
PC12. maintain a conducive environment for all the genders at the workplace	2	5	-	1

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**

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	27/01/2025
NSQC Clearance Date	27/01/2022

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

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

Constitutional values – Citizenship

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

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

Becoming a Professional in the 21st Century

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

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

Basic English Skills

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

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

Communication Skills

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

PC5. follow good manners while communicating with others

PC6. work with others in a team

Diversity & Inclusion

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

PC7.   communicate and behave appropriately with all genders and PwD

PC8.   report any issues related to sexual harassment

Financial and Legal Literacy

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

PC9.   use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

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

Essential Digital Skills

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

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

PC13. use internet and social media platforms securely and safely

Entrepreneurship

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

PC14. identify and assess opportunities for potential business

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

Customer Service

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

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1.   need for employability skills

KU2.   various constitutional and personal values

KU3.   different environmentally sustainable practices and their importance

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

KU5.   how to use basic spoken English language

KU6.   Do and dont of effective communication

KU7.   inclusivity and its importance

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

KU9.   different types of financial products and services

KU10. how to compute income and expenses

KU11. importance of maintaining safety and security in financial transactions

KU12. different legal rights and laws

KU13. how to operate digital devices and applications safely and securely

KU14. ways to identify business opportunities

KU15. types of customers and their needs

KU16. how to apply for a job and prepare for an interview

KU17. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. communicate effectively using appropriate language

GS2. behave politely and appropriately with all

GS3. perform basic calculations

GS4. solve problems effectively

GS5. be careful and attentive at work

GS6. use time effectively

GS7. maintain hygiene and sanitisation to avoid infection

Assessment Criteria

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

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

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	30/06/2025
NSQC Clearance Date	30/06/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
TEL/N4128.Outside Plant Cable Installation Procedures and Practices	30	60	-	10	100	15
TEL/N6400.Splice Optical Fiber	35	55	-	10	100	15
TEL/N4200.Installation of Passive FTTH/X components	35	55	-	10	100	15
TEL/N4201.In-building FTTH/X cabling	30	60	-	10	100	15
TEL/N4131.Work Safety Practices with Fiber Optics	40	50	-	10	100	10
TEL/N9101.Organize Work and Resources as per Health and Safety Standards	30	60	-	10	100	10
TEL/N9102.Interact Effectively with Team Members and Customers	25	65	-	10	100	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	10
Total	**245**	**435**	**-**	**70**	**750**	**100**

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.

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.