Telecom Rigger - 5G and Legacy Networks

QP Code: TEL/Q6212

Version: 1.0

NSQF Level: 3

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

Contents

TEL/Q6212: Telecom Rigger - 5G and Legacy Networks

Brief Job Description

A Telecom Rigger - 5G and Legacy Networks works under supervision and is responsible for assisting in the installation and maintenance of telecom equipment on telecom structures and towers by using rigging and other installation related skills. The individual also assists in upgrading, dismantling and removing telecom equipment and cabling as per the requirement.

Personal Attributes

The individual must be physically fit to climb towers and work for long durations. The person must have problem-solving skills with the ability to work in coordination with others. The individual should be able to communicate appropriately, both verbally and in writing.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. TEL/N6310: Assist in the Installation of Telecom Equipment
2. TEL/N6323: Assist in the Maintenance, Upgrade and Decommissioning of Telecom Equipment and Sites
3. TEL/N6246: Follow the Occupational Health and Safety Instructions during Tower Climbing
4. TEL/N9101: Organise Work and Resources as per Health and Safety Standards
5. TEL/N9102: Interact Effectively with Team Members and Customers

Qualification Pack (QP) Parameters

Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Operations and Maintenance - Passive Infrastructure
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

Minimum Educational Qualification & Experience	10th Class OR 8th Class (+ ITI (2 years in Electronics/Telecom /IT and other relevant fields)) OR 8th Class with 2 Years of experience in relevant field
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	15 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	1.0

TEL/N6310: Assist in the Installation of Telecom Equipment

Description

This OS unit is about carrying out various activities to assist in the installation of telecom equipment on tower structures - Ground Base Towers (GBT), Roof Top Towers (RTT), monopoles etc. using rigging and other installation related skills keeping all the safety related equipment handy.

Scope

The scope covers the following :

- Determine the scope of work
- Prepare for the installation of telecom equipment
- Assist in the installation of tower equipment
- Assist in performing Line-of-Sight (LOS) check
- Assist in the shelter room installations
- Assist in completing documentation

Elements and Performance Criteria

Determine the scope of work

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

PC1. determine the scope of installation work by coordinating with the supervisor and commissioning engineers

PC2. analyse the relevant blueprints, schematics and as-built site plan to determine the work requirements

PC3. assist the supervisor/field manager by providing appropriate inputs and feedback as required to help achieve the scope of work

Prepare for the installation of telecom equipment

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

PC4. check the availability of required installation material, tools and equipment, and Personal Protection Equipment (PPE)

PC5. examine the installation material, tools and equipment, and PPE to ensure they are not faulty/damaged, and co-ordinate with the supervisor to get them replaced

PC6. assist in preparing Radio Frequency (RF) connector and jumper and assembling the relevant telecom equipment for installation, following the supervisor's instructions

Assist in the installation of tower equipment

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

PC7. carry out antenna assembly, waveguide, and coaxial connector assembly and crimping as per the supervisor's instructions

PC8. assist in erecting and securing telecom structures, such as steel towers, monopoles, masts and cable tray installations to facilitate the installation of telecom equipment

PC9. assist in the installation of antennas, feeders, microwave dishes, mast head amplifiers and ancillary equipment on steel structures/monopoles/towers, using the appropriate safety equipment to ensure safety at heights

PC10. carry out the installation of all necessary transmission equipment components including antenna mounts, surge arrestors, eNodeB, gNodeB, transmission lines, connectors or Tower Mounted Amplifiers (TMAs), Call Distribution Unit (CDU) as per the supervisor's instructions

PC11. ensure the correct azimuth, elevation, angle and alignment of the transmission equipment, such as antennas, amplifiers, microwave dishes, etc.

PC12. carry out the installation of feeder cables, coaxial cables, and high jumpers on steel lattice towers, guyed towers, masts, rooftop and building antennas/aerial systems

PC13. assist in the installation of Radio Frequency (RF) antenna system and external RF hardware, such as Remote Radio Units (RRUs), Tower Mounted Amplifier (TMAs), combiners, microwave dishes, etc.

PC14. assist in the installation of microwave antennas, such as parabolic 1 to 15 foot, Very High Frequency (VHF), Ultra High Frequency (UHF) antennas

PC15. install, connect or test underground or above ground grounding systems as per the supervisor instructions

PC16. use coaxial connectors and coaxial preparatory tools appropriately as per the manufacturer's instructions

PC17. measure the alignment in azimuth, tilt, roll, and height of antennas using the antenna alignment tool and change the settings as per the instructions given by the RF engineer

PC18. carry out bird-proofing and water-proofing of connectors

PC19. assist in installing, terminating, earthing, labelling, and testing different types of cables, such as coaxial, Ethernet, feeder and optical fibre cables for the wireless telecom system

PC20. assist in installing and testing Outdoor Unit (ODUs), splitters, and Customer Premises Equipment (CPE) as per the supervisor's instructions

PC21. assist in ensuring the 3G/4G/5G wireless system is built as per the approved drawing and is operational as per the design

PC22. use the compass, Global Positioning System (GPS) receiver, Range Finder and other relevant equipment as per the requirement

PC23. assist in carrying out labelling, grounding and sweep testing

PC24. carry out Passive Intermodulation (PIM) and sweep testing, following the supervisor's instructions

PC25. assist the technicians and Instrumentation & Control (I&C) engineers in undertaking installation rectification for all the equipment installed

Assist in performing LOS check

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

PC26. assist in performing Line of Sight (LOS) check to ensure signal drop or termination is not experienced

PC27. assist in identifying the reason for drop/termination of signal, such as bad cable connection, incorrect network configuration, faulty network device, etc.

PC28. follow the appropriate measures to correct the LOS and remove the sources causing obstructions, such as networks and radio noise from other electronic and mechanical equipment around wireless gateways

Assist in the shelter room installations

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

PC29. perform the shelter room installations as per the supervisor's instructions

PC30. carry out cabling and relevant tests on the shelter room equipment to ensure their correct functioning

PC31. carry out troubleshooting for any malfunctioning equipment, as required

Assist in completing documentation

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

PC32. assist the supervisor in collecting the relevant information concerning the equipment on towers

PC33. assist in completing the relevant survey reports and documentation for client handover

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of adhering to the applicable safety guidelines during rigging operations

KU2. the importance and process of working safely at high elevations, and the use of appropriate safety equipment

KU3. different support mechanisms and techniques used to climb and work on different types of towers, such as guyed towers, lattice towers, monopole towers, stealth towers, etc.

KU4. the common defects found in various telecom equipment

KU5. the importance of identifying and documenting Job Hazard Assessment (JHA) requirements

KU6. the benefits of following checklists and Standard Operating Procedures (SOPs), such as efficiency and consistency in work

KU7. the importance of determining the client requirements by studying blueprints and carrying out work accordingly

KU8. the process of expanding and upgrading a cellular carrier network, involving civil work at existing cellular network sites and change of telecom equipment

KU9. the importance and process of carrying out pre and post-work site audits

KU10. the benefits and process of upgrading legacy cable plants from coaxial cable to fibre

KU11. the importance and process of determining the scope of work and client's requirements

KU12. the relevant installation material, tools and equipment, and PPE required for telecom rigging

KU13. the process of erecting and securing telecom structures, such as steel towers, monopoles, masts and cable tray installations to facilitate the installation of telecom equipment

KU14. the process of preparing Radio Frequency (RF) connector and jumper, and assembling the relevant telecom equipment for installation

KU15. the process of installing antennas, feeders, microwave dishes, mast head amplifiers and ancillary equipment on steel structures/ monopoles/ towers

KU16. the process of installing feeder cables, high jumpers, Tower Mounted Amplifier (TMA), Call Distribution Unit (CDU), etc.

KU17. the process of installing an RF antenna system and external RF hardware, such as RRUs, Tower Mounted Amplifier (TMAs), Combiners, microwave dishes, etc

KU18. the process of undertaking installation rectification for all equipment deployed during the project rollout

KU19. the process of installing and testing copper and hybrid feeder system

KU20. the process of microwave transmission installation and link panning

KU21. the process of panning/ re-panning antennas

KU22. the use of a cable and antenna analyzer for VHF, broadcasting, cellular, PCS/GSM, 3G/4G/5G, Wireless Local Area Network (WLAN) and Wireless Local Loop (WLL) applications

KU23. the process of carrying out labelling, grounding and sweep testing

KU24. the importance and process of measuring the alignment, azimuth, tilt, roll, and height of antennas using the antenna alignment tool

KU25. the process of installing and testing copper and hybrid feeder system

KU26. the process of microwave transmission installation and link panning

KU27. the process of installing and terminating telecom cables of various types and sizes, as per the requirement

KU28. the process of installing, earthing, labelling, and testing of feeder and optical fibre cables

KU29. the process of installing and testing Outdoor Units (ODUs), splitters, and Customer Premises Equipment (CPE)

KU30. the process of installing mobile/broadcast antenna systems, panel antennas, head frames, hybriflex cables, feeder cables, earthing, cable trays, Remote Radio Units (RRUs), etc.

KU31. the process of installing mobile/broadcast antenna systems, panel antennas, head frames, hybriflex cables, feeder cables, earthing, cable trays, Remote Radio Units (RRUs), etc.

KU32. the process of carrying out PIM and sweep testing

KU33. the importance of ensuring the 3G/ 4G/ 5G wireless system is built as per the approved drawing and is operational as per the design

KU34. the process of commissioning and integrating wireless technologies

KU35. the process of installing, terminating and testing different types of cables, such as coaxial, Ethernet, and optical fibre cables for the wireless telecom system

KU36. the use of compass, GPS receiver, Range Finder and other relevant equipment

KU37. the recommended safety practices to be followed while working at heights on a range of telecom structures, including poles, towers and masts

KU38. the relevant documentation to be completed for client handover

Generic Skills (GS)

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

GS1. maintain work related notes and records

GS2. read the relevant literature to get the latest updates about the field of work

GS3. listen attentively to understand the information/instructions being shared

GS4. communicate politely and professionally

GS5. plan and prioritise tasks to ensure timely completion

GS6. co-ordinate with the coworkers to achieve the work objectives

GS7. evaluate all possible solutions to a problem to select the best one

GS8. take quick decisions to deal with workplace emergencies/accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Determine the scope of work	**1**	**3**	**-**	**3**
PC1. determine the scope of installation work by coordinating with the supervisor and commissioning engineers	1	1	-	1
PC2. analyse the relevant blueprints, schematics and as-built site plan to determine the work requirements	-	1	-	1
PC3. assist the supervisor/field manager by providing appropriate inputs and feedback as required to help achieve the scope of work	-	1	-	1
Prepare for the installation of telecom equipment	**1**	**3**	**-**	**3**
PC4. check the availability of required installation material, tools and equipment, and Personal Protection Equipment (PPE)	-	1	-	1
PC5. examine the installation material, tools and equipment, and PPE to ensure they are not faulty/damaged, and co-ordinate with the supervisor to get them replaced	-	1	-	1
PC6. assist in preparing Radio Frequency (RF) connector and jumper and assembling the relevant telecom equipment for installation, following the supervisor's instructions	1	1	-	1
Assist in the installation of tower equipment	**16**	**25**	**-**	**17**
PC7. carry out antenna assembly, waveguide, and coaxial connector assembly and crimping as per the supervisor's instructions	1	1	-	1
PC8. assist in erecting and securing telecom structures, such as steel towers, monopoles, masts and cable tray installations to facilitate the installation of telecom equipment	-	1	-	1
PC9. assist in the installation of antennas, feeders, microwave dishes, mast head amplifiers and ancillary equipment on steel structures/monopoles/towers, using the appropriate safety equipment to ensure safety at heights	1	1	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. carry out the installation of all necessary transmission equipment components including antenna mounts, surge arrestors, eNodeB, gNodeB, transmission lines, connectors or Tower Mounted Amplifiers (TMAs), Call Distribution Unit (CDU) as per the supervisor's instructions	1	1	-	1
PC11. ensure the correct azimuth, elevation, angle and alignment of the transmission equipment, such as antennas, amplifiers, microwave dishes, etc.	1	1	-	1
PC12. carry out the installation of feeder cables, coaxial cables, and high jumpers on steel lattice towers, guyed towers, masts, rooftop and building antennas/aerial systems	1	1	-	1
PC13. assist in the installation of Radio Frequency (RF) antenna system and external RF hardware, such as Remote Radio Units (RRUs), Tower Mounted Amplifier (TMAs), combiners, microwave dishes, etc.	1	1	-	1
PC14. assist in the installation of microwave antennas, such as parabolic 1 to 15 foot, Very High Frequency (VHF), Ultra High Frequency (UHF) antennas	1	1	-	1
PC15. install, connect or test underground or above ground grounding systems as per the supervisor instructions	1	1	-	1
PC16. use coaxial connectors and coaxial preparatory tools appropriately as per the manufacturer's instructions	1	2	-	-
PC17. measure the alignment in azimuth, tilt, roll, and height of antennas using the antenna alignment tool and change the settings as per the instructions given by the RF engineer	2	1	-	1
PC18. carry out bird-proofing and water-proofing of connectors	1	1	-	1
PC19. assist in installing, terminating, earthing, labelling, and testing different types of cables, such as coaxial, Ethernet, feeder and optical fibre cables for the wireless telecom system	1	3	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC20. assist in installing and testing Outdoor Unit (ODUs), splitters, and Customer Premises Equipment (CPE) as per the supervisor's instructions	-	2	-	-
PC21. assist in ensuring the 3G/4G/5G wireless system is built as per the approved drawing and is operational as per the design	-	1	-	1
PC22. use the compass, Global Positioning System (GPS) receiver, Range Finder and other relevant equipment as per the requirement	1	2	-	1
PC23. assist in carrying out labelling, grounding and sweep testing	-	1	-	1
PC24. carry out Passive Intermodulation (PIM) and sweep testing, following the supervisor's instructions	1	1	-	1
PC25. assist the technicians and Instrumentation & Control (I&C) engineers in undertaking installation rectification for all the equipment installed	1	2	-	1
Assist in performing LOS check	**3**	**3**	**-**	**3**
PC26. assist in performing Line of Sight (LOS) check to ensure signal drop or termination is not experienced	1	1	-	1
PC27. assist in identifying the reason for drop/termination of signal, such as bad cable connection, incorrect network configuration, faulty network device, etc.	1	1	-	1
PC28. follow the appropriate measures to correct the LOS and remove the sources causing obstructions, such as networks and radio noise from other electronic and mechanical equipment around wireless gateways	1	1	-	1
Assist in the shelter room installations	**2**	**7**	**-**	**2**
PC29. perform the shelter room installations as per the supervisor’s instructions	1	2	-	1
PC30. carry out cabling and relevant tests on the shelter room equipment to ensure their correct functioning	-	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC31. carry out troubleshooting for any malfunctioning equipment, as required	1	3	-	1
Assist in completing documentation	**2**	**4**	**-**	**2**
PC32. assist the supervisor in collecting the relevant information concerning the equipment on towers	1	2	-	1
PC33. assist in completing the relevant survey reports and documentation for client handover	1	2	-	1
NOS Total	**25**	**45**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6310
NOS Name	Assist in the Installation of Telecom Equipment
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Project Engineering
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	NA

TEL/N6323: Assist in the Maintenance, Upgrade and Decommissioning of Telecom Equipment and Sites

Description

This OS unit is about assisting in the maintenance, upgrade and decommissioning of telecom equipment and sites.

Scope

The scope covers the following :

- Assist in carrying out preventive maintenance
- Assist in carrying out corrective maintenance and upgrade
- Assist in decommissioning of telecom site and equipment

Elements and Performance Criteria

Assist in carrying out preventive maintenance

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

PC1. carry out preventive maintenance of telecom structures for corrosion, wind-induced vibration, and mechanical damages

PC2. ensure the relevant telecom equipment are functioning correctly and have intact protective casing

PC3. replace the faulty equipment and protective casing, as required

PC4. identify misalignment of telecom equipment and correct the alignment

PC5. follow the recommended maintenance schedule to prevent any equipment and infrastructure failure and any consequent downtime

Assist in carrying out corrective maintenance and upgrade

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

PC6. assist in conducting site audits, including the auditing of rigging installation and civil areas to ensure adherence to the client's installation and quality standards

PC7. check the maintenance requirement of telecom structures, lifting and personal safety equipment

PC8. use tower ladders, boom lift, cross lift, and other safety mechanisms and practices to climb cell towers and structures to examine the telecom equipment and installations

PC9. identify the maintenance needs of antennas, microwave dishes, feeder cables and ancillary equipment on telecom towers, poles and masts

PC10. assist in estimating Distance To Fault (DTF) measurements for failure analysis concerning service and maintenance of antenna and transmission lines

PC11. assist in maintaining the 3G/ 4G/ 5G network equipment

PC12. check and maintain telecom equipment following the applicable safety, efficiency and calibration procedures

PC13. carry out regular maintenance of telecom equipment and structures using the appropriate maintenance tools and equipment

PC14. assist in the maintenance and upgrade of telecom structures, such as steel towers, poles, masts and cable tray installations, following the supervisor's instructions

PC15. assist in upgrading existing wireless telecom sites and equipment, as per the requirement

PC16. collect the relevant repair and maintenance data and assist the supervisor in maintaining the appropriate records as per the organisational policy

Assist in decommissioning of telecom site and equipment

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

PC17. assist in swapping and decommissioning of mobile telecom sites and structures as per the requirement

PC18. assist in recovering the 3G/ 4G/ 5G network equipment

PC19. assist in decommissioning and dismantling telecom cabling and equipment as per the requirement

PC20. assist in the recovery of panel antennas, head frames, hybriflex cables, feeder cables, earthing, cable trays, Remote Radio Units (RRUs), etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of conducting site audits and auditing of rigging installation and civil areas

KU2. the importance and process of checking the maintenance requirement of telecom structures, lifting and personal safety equipment

KU3. how to use tower ladders, boom lift, cross lift, other safety mechanisms and practices to climb cell towers and structures

KU4. the common maintenance needs of antennas, microwave dishes, feeder cables and ancillary equipment on telecom towers, poles and masts

KU5. Distance To Fault (DTF) measurements for failure analysis concerning service and maintenance of antenna and transmission lines

KU6. how to maintain and recover 3G/ 4G/ 5G network equipment

KU7. how to carry out regular maintenance of telecom equipment and structures, and the relevant tools and equipment to be used for the purpose

KU8. the process of maintaining and upgrading telecom structures, such as steel towers, poles, masts and cable tray installations

KU9. the process of upgrading wireless telecom sites and equipment

KU10. the relevant repair and maintenance data to be collected for maintaining the maintenance records

KU11. the process of swapping and decommissioning mobile telecom sites and structures

KU12. the process of decommissioning and dismantling telecom cabling and equipment

KU13. how to recover panel antennas, head frames, hybriflex cables, feeder cables, earthing, cable trays, Remote Radio Units (RRUs), etc.

Generic Skills (GS)

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

GS1. maintain work-related records
GS2. read the relevant guides and literature to get the latest information about the field of work.
GS3. communicate clearly and politely
GS4. listen attentively to understand the instructions being given
GS5. plan and prioritise tasks to ensure timely completion
GS6. identify appropriate solutions to work-related issues
GS7. take quick decision in case of an emergency/accident

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Assist in carrying out preventive maintenance	**7**	**13**	**-**	**5**
PC1. carry out preventive maintenance of telecom structures for corrosion, wind-induced vibration, and mechanical damages	1	3	-	1
PC2. ensure the relevant telecom equipment are functioning correctly and have intact protective casing	1	2	-	1
PC3. replace the faulty equipment and protective casing, as required	1	2	-	1
PC4. identify misalignment of telecom equipment and correct the alignment	2	4	-	1
PC5. follow the recommended maintenance schedule to prevent any equipment and infrastructure failure and any consequent downtime	2	2	-	1
Assist in carrying out corrective maintenance and upgrade	**16**	**28**	**-**	**11**
PC6. assist in conducting site audits, including the auditing of rigging installation and civil areas to ensure adherence to the client's installation and quality standards	1	2	-	1
PC7. check the maintenance requirement of telecom structures, lifting and personal safety equipment	1	3	-	1
PC8. use tower ladders, boom lift, cross lift, and other safety mechanisms and practices to climb cell towers and structures to examine the telecom equipment and installations	2	3	-	1
PC9. identify the maintenance needs of antennas, microwave dishes, feeder cables and ancillary equipment on telecom towers, poles and masts	1	3	-	1
PC10. assist in estimating Distance To Fault (DTF) measurements for failure analysis concerning service and maintenance of antenna and transmission lines	2	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. assist in maintaining the 3G/ 4G/ 5G network equipment	1	2	-	1
PC12. check and maintain telecom equipment following the applicable safety, efficiency and calibration procedures	1	3	-	1
PC13. carry out regular maintenance of telecom equipment and structures using the appropriate maintenance tools and equipment	2	2	-	1
PC14. assist in the maintenance and upgrade of telecom structures, such as steel towers, poles, masts and cable tray installations, following the supervisor's instructions	2	2	-	1
PC15. assist in upgrading existing wireless telecom sites and equipment, as per the requirement	2	4	-	1
PC16. collect the relevant repair and maintenance data and assist the supervisor in maintaining the appropriate records as per the organisational policy	1	2	-	1
Assist in decommissioning of telecom site and equipment	**7**	**9**	**-**	**4**
PC17. assist in swapping and decommissioning of mobile telecom sites and structures as per the requirement	2	2	-	1
PC18. assist in recovering the 3G/ 4G/ 5G network equipment	1	2	-	1
PC19. assist in decommissioning and dismantling telecom cabling and equipment as per the requirement	2	2	-	1
PC20. assist in the recovery of panel antennas, head frames, hybriflex cables, feeder cables, earthing, cable trays, Remote Radio Units (RRUs), etc.	2	3	-	1
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6323
NOS Name	Assist in the Maintenance, Upgrade and Decommissioning of Telecom Equipment and Sites
Sector	Telecom
Sub-Sector	Passive Infrastructure
Occupation	Project Engineering
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	NA

TEL/N6246: Follow the Occupational Health and Safety Instructions during Tower Climbing

Description

This OS unit is about following the applicable occupational health and safety instructions during tower climbing.

Scope

The scope covers the following :

- Perform the pre-climb tower inspection
- Check the safety equipment and work site conditions
- Carry out tower operations following safety instructions

Elements and Performance Criteria

Perform the pre-climb tower inspection

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

PC1. perform a visual observation of the tower using binoculars to check for loose or missing hardware and ensure such issues are fixed before climbing the tower

PC2. identify any climbing obstructions and hazards, such as bird roosts and insect nests and take appropriate measures to deal with them

PC3. inspect turnbuckles for correct installation and check the tension of the guy wires on guyed towers to ensure they are within their recommended tension range

PC4. check guy preforms on guyed towers and thimbles for signs of damage

PC5. check the verticality of the tower to identify the eccentricity/leaning of the tower due to weakness in the tower members by wind load or excessive line loading

PC6. ensure all the identified issues with the tower are addressed through coordination with the relevant authority before tower climbing

Check the safety equipment and work site conditions

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

PC7. check the availability of appropriate tower ladders, hoisting and rigging equipment, and relevant tools and machinery for climbing towers ensuring they are appropriately maintained and safe for use

PC8. check the availability of appropriate Personal Protective Equipment (PPE) and inspect it to ensure it is well-maintained and safe for use, ensuring not to undertake any rigging work without PPE

PC9. check the availability of a fully equipped first aid kit at the work site to deal with minor medical emergencies

PC10. check the strength of radio waves at the tower work site using a Radio Frequency (RF) detector to ensure adherence to applicable RF safety regulations

PC11. check there are no serious electrical hazards at the tower work site, such as overhead electricity wires

PC12. coordinate with the relevant personnel to conduct comprehensive safety planning, including a Job Hazard Analysis (JHA) and an Emergency Action Plan (EAP)

PC13. identify unsafe conditions at the work site and report them promptly to the appropriate authority

PC14. check the weather conditions through reliable sources to ensure no storm, lightning or other adverse weather conditions are expected that could impact working at heights on towers

PC15. measure the wind velocity using an anemometer to ensure tower climbing is carried out when the wind velocity is under the recommended limits

PC16. ensure any equipment, machinery, vehicles, or materials which are potential danger near tower sites and live wires are maintained at a safe distance

Carry out tower operations following safety instructions

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

PC17. follow the applicable health and safety protocol at the work site, including registering

PC18. use a full-body harness tied off at appropriate spots on the tower to maintain complete tie-off while on the tower

PC19. use a safety cable climb or two or more lanyards when moving on towers

PC20. use the appropriate PPE while climbing up and down and working on towers, following the manufacturer's instructions to ensure its effectiveness

PC21. follow the recommended tower climbing practices while climbing and working on telecom towers to minimise any injuries and untoward incidents during tower climbing

PC22. use two-way radio while working on towers to maintain continuous communication with the ground crew

PC23. coordinate with the relevant authority to report impaired physical health and stop working at heights under the influence of drowsiness-inducing medication

PC24. carry out work away from electricity wires or co-ordinate with the relevant authority to have electricity turned off while working near electricity wires, as appropriate

PC25. ensure to place appropriate warning signs to warn co-workers while working near live electricity wires

PC26. ensure compliance with the applicable health and safety standards and regulations

PC27. administer first aid for different types of medical emergencies

PC28. assist the relevant personnel in preparing incident reports by providing information regarding tower climbing incidents

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of getting adequate training and practice in tower climbing to minimise the injuries and untoward incidents during tower climbing

KU2. the importance of ensuring the availability of well-maintained safety equipment before climbing towers

KU3. the appropriate PPE required for tower climbing, i.e. full body harness designed for tower climbing, dual leg shock-absorbing lanyard, safety climb cable attachment device (Cable Grab), climbing helmet, gloves, steel-toed boots with rigid sole, clear or tinted eyeglasses, positioning lanyard, carabiners etc.

KU4. the importance of ensuring the availability of a fully-equipped first aid kit at the work site

KU5. the benefit and importance of using two way radio for telecom riggers to maintain communication with ground crew

KU6. the process of administering first aid for different types of medical emergencies

KU7. the importance of identifying unsafe conditions at the work site and reporting them promptly to the appropriate authority following the applicable reporting process

KU8. the importance of checking the availability of relevant PPE and not undertaking any rigging work without PPE

KU9. the importance and process of checking the PPE to ensure it is functioning properly and safe to use

KU10. the importance of conducting comprehensive safety planning, including a Job Hazard Analysis (JHA) and an Emergency Action Plan (EAP) for every job site

KU11. the importance and process of checking weather conditions and avoiding any work at heights during adverse weather conditions

KU12. the importance of not working at heights in case of impaired physical health, such as being under medication that may cause drowsiness affecting the ability to work with concentration at elevations

KU13. the importance of continually enhancing safety skills and awareness through regular training

KU14. the process of conducting inspections of tools, hoisting and rigging equipment, and other machinery

KU15. the applicable electrical health and safety standards

KU16. the appropriate climbing and working practices to be adopted for a range of telecom structures, such as towers, poles and other steel structures

KU17. the applicable health and safety standards and regulations

KU18. the importance and process of preparing and reviewing incident reports for tower climbing incidents to avoid any similar incidents in future

Generic Skills (GS)

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

GS1. maintain work related records

GS2. read the relevant guides and literature to get the latest information about the field of work

GS3. communicate clearly and politely

GS4. listen attentively to understand the instructions being given

GS5. plan and prioritise tasks to ensure timely completion

GS6. identify appropriate solutions to work-related issues

GS7. take quick decisions to deal with any emergencies or accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Perform the pre-climb tower inspection	**7**	**12**	**-**	**3**
PC1. perform a visual observation of the tower using binoculars to check for loose or missing hardware and ensure such issues are fixed before climbing the tower	1	2	-	1
PC2. identify any climbing obstructions and hazards, such as bird roosts and insect nests and take appropriate measures to deal with them	1	2	-	-
PC3. inspect turnbuckles for correct installation and check the tension of the guy wires on guyed towers to ensure they are within their recommended tension range	1	2	-	1
PC4. check guy preforms on guyed towers and thimbles for signs of damage	1	2	-	-
PC5. check the verticality of the tower to identify the eccentricity/leaning of the tower due to weakness in the tower members by wind load or excessive line loading	2	2	-	1
PC6. ensure all the identified issues with the tower are addressed through coordination with the relevant authority before tower climbing	1	2	-	-
Check the safety equipment and work site conditions	**11**	**20**	**-**	**7**
PC7. check the availability of appropriate tower ladders, hoisting and rigging equipment, and relevant tools and machinery for climbing towers ensuring they are appropriately maintained and safe for use	1	2	-	1
PC8. check the availability of appropriate Personal Protective Equipment (PPE) and inspect it to ensure it is well-maintained and safe for use, ensuring not to undertake any rigging work without PPE	1	2	-	-
PC9. check the availability of a fully equipped first aid kit at the work site to deal with minor medical emergencies	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. check the strength of radio waves at the tower work site using a Radio Frequency (RF) detector to ensure adherence to applicable RF safety regulations	2	2	-	-
PC11. check there are no serious electrical hazards at the tower work site, such as overhead electricity wires	1	2	-	1
PC12. coordinate with the relevant personnel to conduct comprehensive safety planning, including a Job Hazard Analysis (JHA) and an Emergency Action Plan (EAP)	1	2	-	-
PC13. identify unsafe conditions at the work site and report them promptly to the appropriate authority	1	2	-	1
PC14. check the weather conditions through reliable sources to ensure no storm, lightning or other adverse weather conditions are expected that could impact working at heights on towers	1	2	-	1
PC15. measure the wind velocity using an anemometer to ensure tower climbing is carried out when the wind velocity is under the recommended limits	1	2	-	1
PC16. ensure any equipment, machinery, vehicles, or materials which are potential danger near tower sites and live wires are maintained at a safe distance	1	2	-	1
Carry out tower operations following safety instructions	**12**	**23**	**-**	**5**
PC17. follow the applicable health and safety protocol at the work site, including registering	1	2	-	1
PC18. use a full-body harness tied off at appropriate spots on the tower to maintain complete tie-off while on the tower	1	2	-	-
PC19. use a safety cable climb or two or more lanyards when moving on towers	1	2	-	-
PC20. use the appropriate PPE while climbing up and down and working on towers, following the manufacturer's instructions to ensure its effectiveness	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. follow the recommended tower climbing practices while climbing and working on telecom towers to minimise any injuries and untoward incidents during tower climbing	1	2	-	1
PC22. use two-way radio while working on towers to maintain continuous communication with the ground crew	1	2	-	-
PC23. coordinate with the relevant authority to report impaired physical health and stop working at heights under the influence of drowsiness-inducing medication	1	2	-	1
PC24. carry out work away from electricity wires or co-ordinate with the relevant authority to have electricity turned off while working near electricity wires, as appropriate	1	2	-	1
PC25. ensure to place appropriate warning signs to warn co-workers while working near live electricity wires	1	2	-	1
PC26. ensure compliance with the applicable health and safety standards and regulations	1	2	-	-
PC27. administer first aid for different types of medical emergencies	1	2	-	-
PC28. assist the relevant personnel in preparing incident reports by providing information regarding tower climbing incidents	1	1	-	-
NOS Total	**30**	**55**	**-**	**15**

National Occupational Standards (NOS) Parameters

NOS Code	TEL/N6246
NOS Name	Follow the Occupational Health and Safety Instructions during Tower Climbing
Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	NA

TEL/N9101: Organise 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	-	-
PC26. optimize use of electricity/energy in various tasks/activities/processes	1	3	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	Organise Work and Resources as per Health and Safety Standards
Sector	Telecom
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2026
NSQC Clearance Date	24/02/2022

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
PC13. encourage appropriate behavior and conduct with people across gender	2	5	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	TBD
Version	1.0
Last Reviewed Date	24/02/2022
Next Review Date	24/02/2026
NSQC Clearance Date	24/02/2022

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/N6310.Assist in the Installation of Telecom Equipment	25	45	-	30	100	20
TEL/N6323.Assist in the Maintenance, Upgrade and Decommissioning of Telecom Equipment and Sites	30	50	-	20	100	20
TEL/N6246.Follow the Occupational Health and Safety Instructions during Tower Climbing	30	55	-	15	100	20
TEL/N9101.Organise Work and Resources as per Health and Safety Standards	30	60	-	10	100	20
TEL/N9102.Interact Effectively with Team Members and Customers	25	65	-	10	100	20
Total	**140**	**275**	**-**	**85**	**500**	**100**

Acronyms

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

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.