



# Drone Monitoring and Maintenance Associate

QP Code: TEL/Q6217

Version: 1.0

NSQF Level: 3

Telecom Sector Skill Council || 3rd Floor, Plot No 126, Sector - 44  
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## Qualification Pack

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## Qualification Pack

### TEL/Q6217: Drone Monitoring and Maintenance Associate

#### Brief Job Description

The individual in this job role will be responsible for monitoring and maintenance of 5G enabled drone systems and manage and analyse drone data using 5G connectivity. They are also responsible for the repair and maintenance of drone hardware and software systems.

#### Personal Attributes

The individual must have attention to detail along with strong analytical and problem-solving skills. The person should have excellent verbal and written communication skills. The individual must be able to work for long durations with concentration. Excellent time management skills, interpersonal skills, and the ability to work in coordination with others are the other important requirements in this job role.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [TEL/N6258: Manage and Analyse Drone Data](#)
2. [TEL/N6259: Operate and Maintain the Drone System](#)
3. [TEL/N9101: Organise Work and Resources as per Health and Safety Standards](#)
4. [TEL/N9102: Interact Effectively with Team Members and Customers](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Telecom
<b>Sub-Sector</b>	Network Managed Services
<b>Occupation</b>	Network Operation and Maintenance
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/NIL

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<b>Minimum Educational Qualification &amp; Experience</b>	10th Class OR 8th Class (Pass and and pursuing continuous regular schooling) OR 8th Class (+ ITI (2 years in Electronics/Telecom/IT and other relevant fields))
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	15 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	30/06/2025
<b>NSQC Approval Date</b>	30/06/2022
<b>Version</b>	1.0
<b>Reference code on NQR</b>	2022/TEL/TSSC/06068
<b>NQR Version</b>	1.0

## Qualification Pack

### TEL/N6258: Manage and Analyse Drone Data

#### Description

The OS unit is about using the 5G mobile internet connectivity to retrieve and analyse the data captured by 5G-enabled drones.

#### Scope

The scope covers the following :

- Test the data transmission
- Retrieve and analyse the drone data

#### Elements and Performance Criteria

##### *Test the data transmission*

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

- PC1.** connect the drone with the command and control communication system using the 5G network, following the drone manufacturer instructions
- PC2.** connect the drone with the appropriate cloud server for sharing the captured data over the 5G network
- PC3.** conduct the relevant tests to ensure data uplink, and downlink takes place without any issues over the 5G network
- PC4.** carry out troubleshooting for any issues identified during the test
- PC5.** coordinate with the drone manufacturer or 5G network provider for any complex issues, as required

##### *Retrieve and analyse the drone data*

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

- PC6.** retrieve the automatically processed data from the cloud server
- PC7.** retrieve the data captured by the drone on a local computer or network for manual processing
- PC8.** determine the size of datasets to decide whether local processing is appropriate
- PC9.** coordinate with an organisation specialising in drone data processing for the processing of large datasets
- PC10.** calibrate and process the drone data according to the requirement and organisational procedure
- PC11.** identify errors and anomalies in the data and take appropriate measures as per the organisational procedure to rectify them
- PC12.** carry out photogrammetry to obtain the relevant information about physical objects and the environment through measurement and interpretation of images recorded by the drone
- PC13.** use the appropriate data processing software for tasks, such as image geotagging and calculating the overlap
- PC14.** create high-accuracy maps and 3D models through data analysis
- PC15.** prepare the relevant reports with respect to data analysis drawing appropriate conclusions

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**PC16.** maintain the appropriate manual and electronic records with respect to data analysis

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of data transmission from a 5G enabled drone
- KU2.** the benefit of using a cloud server and how it processes data
- KU3.** the process of conducting the appropriate tests to ensure connectivity between the drone and command and control communication system through 5G
- KU4.** how to retrieve the drone data for processing on a local computer and determining the size of the dataset
- KU5.** how to calibrate and process the drone data according to varied requirements
- KU6.** how to identify errors and anomalies in the data and appropriate measures to be taken to rectify them
- KU7.** how to carry out photogrammetry to obtain the relevant information from the images recorded by the drone
- KU8.** use of the appropriate data processing software for various tasks, such as image geotagging and calculating the overlap
- KU9.** the process of creating high-accuracy maps and 3D models through data analysis
- KU10.** the process of preparing the relevant reports with respect to data analysis and drawing appropriate conclusions

### 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 learn about the latest developments in the field of work
- GS3.** listen attentively to understand the information/instructions
- GS4.** communicate politely and professionally
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one
- GS7.** co-ordinate with the co-workers to achieve the work objectives
- GS8.** take quick decisions to deal with workplace emergencies/accidents

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Test the data transmission</i>	<b>10</b>	<b>20</b>	-	<b>5</b>
<b>PC1.</b> connect the drone with the command and control communication system using the 5G network, following the drone manufacturer instructions	2	4	-	1
<b>PC2.</b> connect the drone with the appropriate cloud server for sharing the captured data over the 5G network	2	4	-	1
<b>PC3.</b> conduct the relevant tests to ensure data uplink, and downlink takes place without any issues over the 5G network	2	4	-	1
<b>PC4.</b> carry out troubleshooting for any issues identified during the test	2	3	-	1
<b>PC5.</b> coordinate with the drone manufacturer or 5G network provider for any complex issues, as required	2	5	-	1
<i>Retrieve and analyse the drone data</i>	<b>15</b>	<b>40</b>	-	<b>10</b>
<b>PC6.</b> retrieve the automatically processed data from the cloud server	1	2	-	1
<b>PC7.</b> retrieve the data captured by the drone on a local computer or network for manual processing	1	4	-	1
<b>PC8.</b> determine the size of datasets to decide whether local processing is appropriate	2	3	-	1
<b>PC9.</b> coordinate with an organisation specialising in drone data processing for the processing of large datasets	2	3	-	1
<b>PC10.</b> calibrate and process the drone data according to the requirement and organisational procedure	3	4	-	1
<b>PC11.</b> identify errors and anomalies in the data and take appropriate measures as per the organisational procedure to rectify them	1	4	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> carry out photogrammetry to obtain the relevant information about physical objects and the environment through measurement and interpretation of images recorded by the drone	1	5	-	1
<b>PC13.</b> use the appropriate data processing software for tasks, such as image geotagging and calculating the overlap	1	3	-	1
<b>PC14.</b> create high-accuracy maps and 3D models through data analysis	1	5	-	-
<b>PC15.</b> prepare the relevant reports with respect to data analysis drawing appropriate conclusions	1	4	-	1
<b>PC16.</b> maintain the appropriate manual and electronic records with respect to data analysis	1	3	-	1
<b>NOS Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	TEL/N6258
<b>NOS Name</b>	Manage and Analyse Drone Data
<b>Sector</b>	Telecom
<b>Sub-Sector</b>	Network Managed Services
<b>Occupation</b>	Network Operation and Maintenance
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	30/06/2025
<b>NSQC Clearance Date</b>	30/06/2022

## Qualification Pack

# TEL/N6259: Operate and Maintain the Drone System

## Description

The OS unit is about preparing and operating 5G enabled drone systems for various purposes and perform repair and maintenance of Drones.

## Scope

The scope covers the following :

- Prepare for drone operations
- Operate the drone system
- Maintain the drone system

## Elements and Performance Criteria

### *Prepare for drone operations*

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

- PC1.** check climate conditions to ensure consistent visibility throughout the expected range for drone operations
- PC2.** check the batteries in the drone and its controller are adequately charged for the expected duration of operation
- PC3.** test the receipt of 5G signals by the drone and conduct a test flight to ensure the correct functioning of the drone, such as the visuals and data reported by the drone
- PC4.** carry out troubleshooting for any issues identified with the drone during testing following the manufacturer instructions

### *Operate the drone system*

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

- PC5.** use the 5G enabled drone for surveillance, intelligence gathering, industrial mapping, delivery, filming and photography, etc
- PC6.** control the drone using the command and control communication system
- PC7.** use the appropriate mechanism to allow the relevant authorities to identify the drone, such as the broadcasting of appropriate signals by drone through the 5G network
- PC8.** follow the recommended measures to ensure the process of drone identification is secure and tamper-resistant
- PC9.** use the 5G network connectivity for autonomous drone activity such as precision monitoring and mapping, according to the capability of the drone
- PC10.** utilise the appropriate network publishing solutions to publish data on a remote server, such as the drone traffic management system using 5G network connectivity
- PC11.** use the payload data transmission system to support the applications onboard the drone, such as high bandwidth video streaming
- PC12.** use the 5G network connectivity to operate the drone out of the Visual Line of Sight (VLOS), monitoring its path to avoid collision with other drones or Unmanned Aerial Vehicles (UAVs)

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- PC13.** ensure compliance with the safety and regulatory requirements applicable to drone operations, such as low-altitude airspace restrictions
- PC14.** ensure constant communication between the drone and drone traffic management system using the 5G network for effective drone identification and tracking
- PC15.** follow the instructions from the drone traffic management system to ensure safe operations of the drone and report the status of drone flights to them
- PC16.** use the relevant 5G mobile network tools for effective user identification, access authorisation, and geo-fencing
- PC17.** follow the applicable procedure in case of an emergency for the safe landing of the drone at the designated safe emergency landing location

### *Maintain the drone system*

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

- PC18.** identify issues with the 5G modem/receiver on the drone for any malfunctions and out troubleshooting for the identified issues
- PC19.** check various components of the drone, such as chassis, propellers, compass, camera, wiring, landing gear, for damage and defects
- PC20.** repair or replace the defective or damaged components, using the manufacturer-approved spare parts, and maintenance tools and equipment
- PC21.** check the vehicle-to-vehicle (V2V) communication system to ensure its correct functioning to prevent collision with other drones in the air
- PC22.** co-ordinate with the manufacturer to resolve any complex and manufacturing issues
- PC23.** follow the maintenance schedule recommended by the drone manufacturer for its regular maintenance
- PC24.** maintain the record of repair and maintenance activities and review the maintenance records to identify and address recurring issues

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the benefit of operating drone on a 5G network, such as high reliability and low latency connectivity
- KU2.** different benefits of using 5G enabled drones, such as effective and real-time surveillance, asset inspection, swarm mapping, delivery, etc
- KU3.** the regulations applicable to the operations of automated and pilot-operated drones, such as low-altitude airspace restrictions
- KU4.** the process of preparing a drone for operations and the relevant troubleshooting to be carried out for common issues
- KU5.** the importance of maintaining constant communication with the drone traffic management system during the drone flight and following their instructions
- KU6.** how to control a drone using the command and control communication system
- KU7.** the importance of using the appropriate mechanism to allow the relevant authorities to identify the drone, ensuring the identification process is tamper-resistant
- KU8.** the benefit and process of using the 5G network connectivity for autonomous drone activity

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- KU9.** how to publish data on a remote server, such as the drone traffic management system, utilising the 5G network connectivity publishing solutions
- KU10.** how to use the payload data transmission system to support the applications onboard the drone
- KU11.** the benefit of using the 5G network connectivity for real-time control and operations of a drone out of the Visual Line of Sight (VLOS)
- KU12.** the benefit and process of using the relevant 5G mobile network tools for effective user identification, access authorisation, and geo-fencing
- KU13.** the procedure to be followed for the safe landing of the drone during an emergency, such as unfavourable weather
- KU14.** how to resolve the common issues experienced with various drone components, such as chassis, propellers, motors, gimbal, indicator lights, landing gear, batteries, electronic speed controller, compass, camera, etc.
- KU15.** the importance of using the manufacturer-approved spare parts and maintenance tools and equipment for repair and replacement activities
- KU16.** the importance of ensuring the correcting functioning of 5G modem/ receiver, and vehicle-to-vehicle (V2V) communication system
- KU17.** the importance of following the maintenance schedule recommended by the drone manufacturer
- KU18.** the importance and process of maintaining the record of repair and maintenance activities manually and electronically

## Generic Skills (GS)

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

- GS1.** write work related notes
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** perform basic calculations
- GS4.** listen attentively to understand the information/instructions
- GS5.** communicate politely and professionally
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** coordinate with the co-workers to achieve the work objectives
- GS9.** take quick decisions to deal with workplace emergencies/accidents

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for drone operations</i>	<b>4</b>	<b>13</b>	-	<b>2</b>
<b>PC1.</b> check climate conditions to ensure consistent visibility throughout the expected range for drone operations	1	3	-	1
<b>PC2.</b> check the batteries in the drone and its controller are adequately charged for the expected duration of operation	1	3	-	-
<b>PC3.</b> test the receipt of 5G signals by the drone and conduct a test flight to ensure the correct functioning of the drone, such as the visuals and data reported by the drone	1	4	-	-
<b>PC4.</b> carry out troubleshooting for any issues identified with the drone during testing following the manufacturer instructions	1	3	-	1
<i>Operate the drone system</i>	<b>13</b>	<b>36</b>	-	<b>6</b>
<b>PC5.</b> use the 5G enabled drone for surveillance, intelligence gathering, industrial mapping, delivery, filming and photography, etc	1	3	-	1
<b>PC6.</b> control the drone using the command and control communication system	1	3	-	-
<b>PC7.</b> use the appropriate mechanism to allow the relevant authorities to identify the drone, such as the broadcasting of appropriate signals by drone through the 5G network	1	3	-	1
<b>PC8.</b> follow the recommended measures to ensure the process of drone identification is secure and tamper-resistant	1	3	-	-
<b>PC9.</b> use the 5G network connectivity for autonomous drone activity such as precision monitoring and mapping, according to the capability of the drone	1	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> utilise the appropriate network publishing solutions to publish data on a remote server, such as the drone traffic management system using 5G network connectivity	1	3	-	-
<b>PC11.</b> use the payload data transmission system to support the applications onboard the drone, such as high bandwidth video streaming	1	3	-	1
<b>PC12.</b> use the 5G network connectivity to operate the drone out of the Visual Line of Sight (VLOS), monitoring its path to avoid collision with other drones or Unmanned Aerial Vehicles (UAVs)	1	2	-	-
<b>PC13.</b> ensure compliance with the safety and regulatory requirements applicable to drone operations, such as low-altitude airspace restrictions	1	4	-	1
<b>PC14.</b> ensure constant communication between the drone and drone traffic management system using the 5G network for effective drone identification and tracking	1	2	-	-
<b>PC15.</b> follow the instructions from the drone traffic management system to ensure safe operations of the drone and report the status of drone flights to them	1	3	-	1
<b>PC16.</b> use the relevant 5G mobile network tools for effective user identification, access authorisation, and geo-fencing	1	3	-	-
<b>PC17.</b> follow the applicable procedure in case of an emergency for the safe landing of the drone at the designated safe emergency landing location	1	2	-	-
<i>Maintain the drone system</i>	<b>8</b>	<b>16</b>	-	<b>2</b>
<b>PC18.</b> identify issues with the 5G modem/receiver on the drone for any malfunctions and out troubleshooting for the identified issues	1	2	-	-
<b>PC19.</b> check various components of the drone, such as chassis, propellers, compass, camera, wiring, landing gear, for damage and defects	1	3	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC20.</b> repair or replace the defective or damaged components, using the manufacturer-approved spare parts, and maintenance tools and equipment	1	4	-	-
<b>PC21.</b> check the vehicle-to-vehicle (V2V) communication system to ensure its correct functioning to prevent collision with other drones in the air	1	2	-	-
<b>PC22.</b> co-ordinate with the manufacturer to resolve any complex and manufacturing issues	1	2	-	-
<b>PC23.</b> follow the maintenance schedule recommended by the drone manufacturer for its regular maintenance	2	2	-	1
<b>PC24.</b> maintain the record of repair and maintenance activities and review the maintenance records to identify and address recurring issues	1	1	-	-
<b>NOS Total</b>	<b>25</b>	<b>65</b>	<b>-</b>	<b>10</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	TEL/N6259
<b>NOS Name</b>	Operate and Maintain the Drone System
<b>Sector</b>	Telecom
<b>Sub-Sector</b>	Network Managed Services
<b>Occupation</b>	Network Operation and Maintenance
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	30/06/2025
<b>NSQC Clearance Date</b>	30/06/2022



## Qualification Pack

# 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

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

### *Conserve material/energy/electricity*

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

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

### *Use effective waste management/recycling practices*

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

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

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** strategies pertinent to their field (such as internet searches, asking peers and managers, enrolling for courses and certifications, etc.) that can be used to pursue an advancement in their skills
- KU2.** key performance indicators for the new tasks
- KU3.** feedback processes and formats
- KU4.** timelines and goals as well as their relevance to work allocated
- KU5.** importance of quality and timely delivery of the product/service
- KU6.** escalation matrix and its importance, especially in case of emergencies
- KU7.** ways of time and cost management
- KU8.** rules/regulation for maintaining health and safety at workplace

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- 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

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### Assessment Criteria

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

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> participate regularly in fire drills or other safety related workshops organised by the company	1	3	-	-
<b>PC14.</b> 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	-	-
<b>PC15.</b> maintain appropriate posture while sitting/standing for long hours	1	1	-	-
<b>PC16.</b> handle heavy and hazardous materials with care, while maintaining appropriate posture	1	1	-	-
<b>PC17.</b> sanitize workstation and equipment regularly	1	2	-	-
<b>PC18.</b> clean hands with soap, alcohol-based sanitizer regularly	-	1	-	-
<b>PC19.</b> avoid contact with anyone suffering from communicable diseases and take necessary precautions	-	1	-	-
<b>PC20.</b> take safety precautions while travelling e.g. maintain 1m distance from others, sanitize hands regularly, wear masks, etc.	1	2	-	-
<b>PC21.</b> report hygiene and sanitation issues to appropriate authority	1	1	-	-
<b>PC22.</b> follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing, using PPE, etc.	1	1	-	-
<i>Conserve material/energy/electricity</i>	<b>7</b>	<b>16</b>	-	<b>3</b>
<b>PC23.</b> optimize usage of material including water in various tasks/activities/processes	1	2	-	-
<b>PC24.</b> use resources such as water, electricity and others responsibly	1	2	-	1
<b>PC25.</b> 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
<b>PC26.</b> optimize use of electricity/energy in various tasks/activities/processes	1	3	-	1
<b>PC27.</b> perform periodic checks of the functioning of the equipment/machine and rectify wherever required	1	3	-	1
<b>PC28.</b> report malfunctioning and lapses in maintenance of equipment	1	2	-	-
<b>PC29.</b> use electrical equipment and appliances properly	1	2	-	-
<i>Use effective waste management/recycling practices</i>	<b>3</b>	<b>8</b>	-	<b>1</b>
<b>PC30.</b> identify recyclable, non-recyclable and hazardous waste	1	2	-	1
<b>PC31.</b> deposit recyclable and reusable material at identified location	1	3	-	-
<b>PC32.</b> dispose non-recyclable and hazardous waste as per recommended processes	1	3	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	-	<b>10</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	TEL/N9101
<b>NOS Name</b>	Organise Work and Resources as per Health and Safety Standards
<b>Sector</b>	Telecom
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	30/06/2025
<b>NSQC Clearance Date</b>	30/06/2022

## Qualification Pack

# TEL/N9102: Interact Effectively with Team Members and Customers

## Description

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

## Scope

The scope covers the following :

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

## Elements and Performance Criteria

### *Interact effectively with superiors*

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

- PC1.** receive work requirements from superiors and customers and interpret them correctly
- PC2.** inform the supervisor and/or concerned person about any unforeseen disruptions or delays
- PC3.** participate in decision making by providing facts and figures, giving/accepting constructive suggestions
- PC4.** rectify errors as per feedback and ensure the errors are not repeated

### *Interact effectively with colleagues and customers*

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

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

### *Respect differences of gender and ability*

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

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

## Knowledge and Understanding (KU)



## Qualification Pack

The individual on the job needs to know and understand:

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

## Generic Skills (GS)

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

- GS1.** read and comprehend forms, documents and records
- GS2.** read and write in English and/or local language
- GS3.** complete work with attention to detail
- GS4.** listen effectively and orally communicate information
- GS5.** work as per customer requirements
- GS6.** communicate with empathy across genders and PwD
- GS7.** improve and modify work practices
- GS8.** maintain positive and effective relationships with colleagues and customers
- GS9.** evaluate the possible solution(s) to the problem

**Qualification Pack**
**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interact effectively with superiors</i>	<b>7</b>	<b>15</b>	-	<b>2</b>
<b>PC1.</b> receive work requirements from superiors and customers and interpret them correctly	1	2	-	-
<b>PC2.</b> inform the supervisor and/or concerned person about any unforeseen disruptions or delays	2	4	-	1
<b>PC3.</b> participate in decision making by providing facts and figures, giving/accepting constructive suggestions	2	5	-	1
<b>PC4.</b> rectify errors as per feedback and ensure the errors are not repeated	2	4	-	-
<i>Interact effectively with colleagues and customers</i>	<b>7</b>	<b>26</b>	-	<b>4</b>
<b>PC5.</b> comply with organisation's policies and procedures for working with team members	1	2	-	-
<b>PC6.</b> communicate professionally using appropriate mode of communication such as face-to-face, telephonic and written	2	4	-	1
<b>PC7.</b> respond to queries and seek/provide clarifications if required	2	4	-	1
<b>PC8.</b> co-ordinate with team to integrate work as per requirements	-	3	-	-
<b>PC9.</b> resolve conflicts within the team/with customers to achieve smooth workflow	1	5	-	1
<b>PC10.</b> recognize emotions accurately in self and others to build good relationships	1	4	-	-
<b>PC11.</b> prioritize team and organization goals above personal goals	-	4	-	1
<i>Respect differences of gender and ability</i>	<b>11</b>	<b>24</b>	-	<b>4</b>
<b>PC12.</b> maintain a conducive environment for all the genders at the workplace	2	5	-	1

### Qualification Pack

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

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	TEL/N9102
<b>NOS Name</b>	Interact Effectively with Team Members and Customers
<b>Sector</b>	Telecom
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	30/06/2025
<b>NSQC Clearance Date</b>	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.

## 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/N6258.Manage and Analyse Drone Data	25	60	0	15	100	25
TEL/N6259.Operate and Maintain the Drone System	25	65	0	10	100	25
TEL/N9101.Organise Work and Resources as per Health and Safety Standards	30	60	-	10	100	25
TEL/N9102.Interact Effectively with Team Members and Customers	25	65	-	10	100	25
<b>Total</b>	<b>105</b>	<b>250</b>	<b>-</b>	<b>45</b>	<b>400</b>	<b>100</b>

## Qualification Pack

### Acronyms

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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

## Qualification Pack

<b>Knowledge and Understanding (KU)</b>	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.
<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.