Qualification Pack

Drone Service Technician

QP Code: ELE/Q7003

Version: 3.0

NSQF Level: 4

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Qualification Pack

ELE/Q7003: Drone Service Technician

Brief Job Description

A Drone Service Technician conducts routine maintenance, troubleshoots and repairs malfunctioning or defective Drone while ensuring adherence to standard working practices. The individuals in this job maintain and repair drones of varying sizes that are used in various applications such as taking aerial photos or videos, transporting goods, firefighting and emergency operations, power line inspections, clandestine inspections, etc.

Personal Attributes

The individual must have attention to detail, logical thinking, and ability to execute the repair and maintenance activity as per clients requirement. The individual should be good at following instructions and work collaboratively with diverse teams. S/he must stay abreast with technology changes, and demonstrate strong technical expertise. Also, s/he must exhibit good customer service attribute - courtesy, problem-solving, reliability, good decision-making skills, etc.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ELE/N7005: Troubleshoot and Repair Drone Malfunctions
2. ELE/N7010: Calibrate, Optimize, and Test Drone Performance
3. DGT/VSQ/N0102: Employability Skills (60 Hours)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	E-Mobility and Battery
Occupation	After Sale Support-EM&B
Country	India
NSQF Level	4
Credits	15
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8212.0400

Minimum Educational Qualification & Experience	Grade 8 pass with 2 years of (NTC/ NAC) after 8th with 3 Years of experience relevant experience OR 10th Class with 2 Years of experience NTC/NAC/relevant experience OR 12th Class (Science) with NA of experience OR Certificate-NSQF (Level-3 in Maintenance Technician) with 1.5 years of experience relevant experience
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	17/12/2027
NSQC Approval Date	17/12/2024
Version	3.0
Reference code on NQR	QG-04-EH-03422-2024-V3-ESSC
NQR Version	3.0

Remarks:

NA

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ELE/N7005: Troubleshoot and Repair Drone Malfunctions

Description

This NOS unit deals with troubleshooting and repairing a drone.

Scope

The scope covers the following :

- Understanding the Drone related issues faced by the customer
- Performing repair and maintenance of the Drone
- Commissioning the Drone
- Reporting to superior

Elements and Performance Criteria

Understanding Drone Issues Faced by the Customer

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

PC1. Gather detailed information about the drone issues reported by customers.

PC2. Refer to appropriate troubleshooting guides, tools, and SOPs to prepare for repairs.

PC3. Perform a comprehensive preliminary check-up of the drone for visible and operational defects.

PC4. Decide on the repair or replacement of malfunctioning modules, either on-site or at the workshop.

Performing Repair and Maintenance of the Drone

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

PC5. Follow recommended procedures for switching on the drone and its remote controller safely.

PC6. Disassemble defective components using industry-standard techniques.

PC7. Test functional components using tools like oscilloscopes, multimeters, and signal analyzers.

PC8. Identify malfunctioning electronic components requiring repair or replacement.

PC9. Conduct repairs following company-specified maintenance protocols.

PC10. Install repaired or new components using specialized tools (e.g., torque screwdriver).

PC11. Reassemble the drone components following industry-standard practices.

PC12. Test and validate drone performance post-repair to ensure proper functionality.

PC13. Dispose of defective parts and debris according to E-waste guidelines.

Commissioning the Drone

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

PC14. Perform final safety checks on the drone, ensuring it meets operational standards.

PC15. Conduct a test flight and provide a demonstration to confirm repair quality.

PC16. Educate the customer on drone care, maintenance schedules, and troubleshooting tips.

Reporting to Supervisors

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

PC17. Provide status updates on workload and task completion to supervisors.
PC18. Maintain detailed documentation of repairs and provide feedback for process improvements.
PC19. Escalate unresolved issues and explain the constraints or limitations encountered.
PC20. Adhere to timelines for repairs or replacements and report delays with justifications.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational policies on incentives and personnel management
KU2. importance of the individual's role in the workflow
KU3. reporting structure followed in the organization
KU4. organisation's portfolio of products
KU5. oranisational policy on product's warranty and other terms and conditions
KU6. types and applications of various types of electronic components such as resistors, capacitors, coil, diode, transistor, integrated circuits (IC) etc.
KU7. basic principles governing AC/DC and electronic circuits
KU8. various types of Drones, their respective applications, electronic components and functioning
KU9. functionalities of various components of Drone such as fans, propellers, electric motors, camera system, GPS, etc.
KU10. manufacturer guidelines for starting and shutting down the drone safely
KU11. standard work practices for disassembling and assembling the Drone
KU12. troubleshooting methods for various types of Drones
KU13. inspection techniques and various checks for identification of faulty Drone components
KU14. various tests and their procedures for checking the Drones
KU15. usage of various tools for repairing the Drone such as multimeter, soldering gun etc.
KU16. techniques for repairing and replacing the faulty drone components
KU17. installation of various types of electronics components in drone
KU18. documentation performed during the entire process
KU19. necessary product information to be communicated to the customer while commissioning the drone
KU20. applicable safety and quality standards during the entire process

Generic Skills (GS)

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

GS1. write common words/signs and set phrases used in the work
GS2. prepare checklists, reports and fill out forms in local language or Hindi/English
GS3. measure various dimensions as per task requirements
GS4. perform arithmetic calculations of addition, subtraction, multiplication and division processes

GS5. read and interpret information (symbols, dimensions, terminology, dates etc.) given in local language or Hindi

GS6. state information, doubts and concerns about work related matters in local language or Hindi/English

GS7. participate in workplace conversations and meetings

GS8. communicate by telephone in local language or Hindi/English

GS9. spot discrepancies or errors and select the most efficient solution

GS10. plan one's daily tasks to achieve maximum productivity

GS11. establish priorities and deadlines in consultation with others and record them

GS12. be punctual and work as per agreed priorities

GS13. manage distractions and maintain workplace discipline

GS14. listen to customer's concerns and doubts carefully and address them

GS15. be courteous

GS16. establish workable solutions for problems in hand in consultation with others and record them

GS17. identify ways to increase productivity and reduce errors

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Understanding Drone Issues Faced by the Customer	**8**	**18**	**-**	**-**
PC1. Gather detailed information about the drone issues reported by customers.	2	4	-	-
PC2. Refer to appropriate troubleshooting guides, tools, and SOPs to prepare for repairs.	2	4	-	-
PC3. Perform a comprehensive preliminary check-up of the drone for visible and operational defects.	2	5	-	-
PC4. Decide on the repair or replacement of malfunctioning modules, either on-site or at the workshop.	2	5	-	-
Performing Repair and Maintenance of the Drone	**11**	**30**	**-**	**-**
PC5. Follow recommended procedures for switching on the drone and its remote controller safely.	1	4	-	-
PC6. Disassemble defective components using industry-standard techniques.	1	3	-	-
PC7. Test functional components using tools like oscilloscopes, multimeters, and signal analyzers.	1	3	-	-
PC8. Identify malfunctioning electronic components requiring repair or replacement.	2	3	-	-
PC9. Conduct repairs following company-specified maintenance protocols.	1	3	-	-
PC10. Install repaired or new components using specialized tools (e.g., torque screwdriver).	1	3	-	-
PC11. Reassemble the drone components following industry-standard practices.	1	4	-	-
PC12. Test and validate drone performance post-repair to ensure proper functionality.	1	3	-	-
PC13. Dispose of defective parts and debris according to E-waste guidelines.	2	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Commissioning the Drone	**6**	**12**	**-**	**-**
PC14. Perform final safety checks on the drone, ensuring it meets operational standards.	2	4	-	-
PC15. Conduct a test flight and provide a demonstration to confirm repair quality.	2	4	-	-
PC16. Educate the customer on drone care, maintenance schedules, and troubleshooting tips.	2	4	-	-
Reporting to Supervisors	**5**	**10**	**-**	**-**
PC17. Provide status updates on workload and task completion to supervisors.	2	3	-	-
PC18. Maintain detailed documentation of repairs and provide feedback for process improvements.	1	3	-	-
PC19. Escalate unresolved issues and explain the constraints or limitations encountered.	1	2	-	-
PC20. Adhere to timelines for repairs or replacements and report delays with justifications.	1	2	-	-
NOS Total	**30**	**70**	**-**	**-**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N7005
NOS Name	Troubleshoot and Repair Drone Malfunctions
Sector	Electronics
Sub-Sector	E-Mobility and Battery
Occupation	After Sale Support-EM&B
NSQF Level	4
Credits	11
Version	2.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

ELE/N7010: Calibrate, Optimize, and Test Drone Performance

Description

This NOS unit deals with how to Calibrate, Optimize, and Test Drone Performance.

Scope

The scope covers the following :

- Calibrating Drone Components
- Advanced Testing and Performance Optimization
- Post-Maintenance Testing and Reporting
- Compliance and Reporting

Elements and Performance Criteria

Calibrating Drone Components

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

PC1. Perform Initial Calibration of sensors, including gyroscopes, accelerometers, and barometers, using software tools and hardware rigs.

PC2. Optimize motor efficiency through ESC firmware upgrades and tuning.

PC3. Ensure GPS accuracy by adjusting and testing for satellite connectivity in various environments.

PC4. Align the gimbal system for stable imaging and video capturing during dynamic maneuvers.

PC5. Inspect and balance propellers to minimize vibration and ensure smooth flight.

PC6. Verify antenna alignment for optimal signal reception in the communication system.

Advanced Testing and Performance Optimization

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

PC7. Perform battery health diagnostics, checking for capacity, voltage fluctuations, and charging cycles.

PC8. Conduct flight controller tuning using parameters like PID (Proportional, Integral, Derivative) settings.

PC9. Simulate emergency scenarios (e.g., low battery, motor failure) to validate safety protocols.

PC10. Test payload capacity and integration of add-ons like cameras, sensors, or sprayers.

PC11. Validate firmware updates and ensure compatibility with drone hardware.

PC12. Assess communication stability between the drone and remote controller, including range and latency tests.

Post-Maintenance Testing and Reporting

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

PC13. Conduct post-calibration hover tests to ensure stability in different weather conditions.

PC14. Analyze flight logs to detect anomalies in power consumption, signal reception, or navigation accuracy.

PC15. Test the drone's performance with a waypoint navigation mission for precision evaluation.

PC16. Perform Return-to-Home (RTH) testing to ensure safe autonomous navigation.

PC17. Validate camera performance by testing video transmission latency and image quality.

PC18. Verify failsafe mechanisms, including geofencing and no-fly zone adherence.

Compliance and Reporting

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

PC19. Ensure all components meet industry standards for safety and compliance (e.g., DGCA or FAA regulations).

PC20. Document all calibration and testing steps, including a checklist for final inspection.

PC21. Communicate calibration and optimization outcomes with stakeholders or customers.

PC22. Maintain a logbook of repairs and calibrations for accountability and future reference.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand key components like sensors, flight controllers, motors, GPS modules, and gimbal systems for calibration tasks.

KU2. Knowledge of gyroscope, accelerometer, and barometer calibration using software tools and hardware setups for accurate drone performance.

KU3. Learn to upgrade ESC firmware, adjust motor efficiency, and balance propellers to reduce vibrations and improve stability.

KU4. Understanding satellite connectivity optimization and antenna alignment techniques for reliable navigation and signal reception in drones.

KU5. Diagnose battery issues like capacity, voltage fluctuations, and charging cycles to ensure safe and reliable power supply.

KU6. Learn to adjust Proportional, Integral, and Derivative (PID) settings for precise flight controller tuning and maneuverability.

KU7. Simulate scenarios like motor failure and low battery to validate safety features and fail-safe mechanisms in drones.

KU8. Ensure compatibility of firmware updates with drone hardware to prevent performance issues and system malfunctions.

KU9. Analyze logs for anomalies in power consumption, navigation accuracy, and signal reception to enhance drone reliability.

Generic Skills (GS)

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

GS1. Ability to clearly explain technical issues, calibration outcomes, and operational guidelines to team members and stakeholders.

GS2. Develop analytical thinking to troubleshoot malfunctions and optimize drone performance in diverse and challenging scenarios.

GS3. Ensure precise calibration, alignment, and testing to maintain optimal drone functionality and operational safety.

GS4. Prioritize tasks effectively to complete calibration, testing, and documentation within given timelines.

GS5. Work seamlessly with team members, sharing knowledge and ensuring coordination in complex repair and testing processes.

GS6. Document calibration processes, diagnostics, and outcomes systematically for compliance, accountability, and knowledge-sharing purposes.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Calibrating Drone Components	**6**	**18**	**-**	**-**
PC1. Perform Initial Calibration of sensors, including gyroscopes, accelerometers, and barometers, using software tools and hardware rigs.	1	3	-	-
PC2. Optimize motor efficiency through ESC firmware upgrades and tuning.	1	3	-	-
PC3. Ensure GPS accuracy by adjusting and testing for satellite connectivity in various environments.	1	3	-	-
PC4. Align the gimbal system for stable imaging and video capturing during dynamic maneuvers.	1	3	-	-
PC5. Inspect and balance propellers to minimize vibration and ensure smooth flight.	1	3	-	-
PC6. Verify antenna alignment for optimal signal reception in the communication system.	1	3	-	-
Advanced Testing and Performance Optimization	**10**	**20**	**-**	**-**
PC7. Perform battery health diagnostics, checking for capacity, voltage fluctuations, and charging cycles.	2	4	-	-
PC8. Conduct flight controller tuning using parameters like PID (Proportional, Integral, Derivative) settings.	2	4	-	-
PC9. Simulate emergency scenarios (e.g., low battery, motor failure) to validate safety protocols.	1	3	-	-
PC10. Test payload capacity and integration of add-ons like cameras, sensors, or sprayers.	2	3	-	-
PC11. Validate firmware updates and ensure compatibility with drone hardware.	1	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Assess communication stability between the drone and remote controller, including range and latency tests.	2	3	-	-
Post-Maintenance Testing and Reporting	**10**	**20**	**-**	**-**
PC13. Conduct post-calibration hover tests to ensure stability in different weather conditions.	2	3	-	-
PC14. Analyze flight logs to detect anomalies in power consumption, signal reception, or navigation accuracy.	2	3	-	-
PC15. Test the drone's performance with a waypoint navigation mission for precision evaluation.	2	4	-	-
PC16. Perform Return-to-Home (RTH) testing to ensure safe autonomous navigation.	2	4	-	-
PC17. Validate camera performance by testing video transmission latency and image quality.	1	3	-	-
PC18. Verify failsafe mechanisms, including geofencing and no-fly zone adherence.	1	3	-	-
Compliance and Reporting	**4**	**12**	**-**	**-**
PC19. Ensure all components meet industry standards for safety and compliance (e.g., DGCA or FAA regulations).	1	3	-	-
PC20. Document all calibration and testing steps, including a checklist for final inspection.	1	3	-	-
PC21. Communicate calibration and optimization outcomes with stakeholders or customers.	1	3	-	-
PC22. Maintain a logbook of repairs and calibrations for accountability and future reference.	1	3	-	-
NOS Total	**30**	**70**	**-**	**-**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ELE/N7010
NOS Name	Calibrate, Optimize, and Test Drone Performance
Sector	Electronics
Sub-Sector	
Occupation	After Sale Support-EM&B
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values – Citizenship

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

PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC4. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC5. recognize the significance of 21st Century Skills for employment

PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

PC7. use basic English for everyday conversation in different contexts, in person and over the telephone

PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC9. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

PC10. understand the difference between job and career

PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13. work collaboratively with others in a team

Diversity & Inclusion

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

PC14. communicate and behave appropriately with all genders and PwD

PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

PC16. select financial institutions, products and services as per requirement

PC17. carry out offline and online financial transactions, safely and securely

PC18. identify common components of salary and compute income, expenses, taxes, investments etc

PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

PC20. operate digital devices and carry out basic internet operations securely and safely

PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively

PC22. use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

PC26. identify different types of customers

PC27. identify and respond to customer requests and needs in a professional manner.

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

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

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

GS3. behave politely and appropriately with all
GS4. how to work in a virtual mode
GS5. perform calculations efficiently
GS6. solve problems effectively
GS7. pay attention to details
GS8. manage time efficiently
GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**2**	**4**	**-**	**-**
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
Basic English Skills	**2**	**3**	**-**	**-**
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	**1**	**2**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
Communication Skills	**2**	**2**	**-**	**-**
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**2**	**-**	**-**
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	**2**	**3**	**-**	**-**
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	**3**	**4**	**-**	**-**
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Entrepreneurship	**2**	**3**	**-**	**-**
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	**1**	**2**	**-**	**-**
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**2**	**3**	**-**	**-**
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	17/12/2024
Next Review Date	17/12/2027
NSQC Clearance Date	17/12/2024

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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

2. The assessment for the theory part will be based on the 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 the theory part for each candidate at each examination/training centre (as per assessment criteria below).

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

6. To pass the Qualification Pack assessment, every trainee should score a minimum of 70% of % aggregate marks to successfully clear the assessment.

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
ELE/N7005.Troubleshoot and Repair Drone Malfunctions	30	70	0	0	100	40
ELE/N7010.Calibrate, Optimize, and Test Drone Performance	30	70	0	0	100	40
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	20
Total	**80**	**170**	**-**	**-**	**250**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
GPS	Global Positioning System
ESC	Electronic Speed Controller
ESD	Electrostatic Discharge
AC/DC	Alternating Current / Direct Current
PC	Performance Criteria
PwD	Persons with disability
UAV	Unmanned Aerial Vehicle
DGCA	Directorate General of Civil Aviation
ATC	Air Traffic Control
OEM	Original Equipment Manufacturer
PCB	Printed Circuit Board

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.
National Occupational Standard	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf