

Qualification Pack



Unmanned Aerial Systems - Operation and Maintenance Supervisor

QP Code: ELE/Q6708

Version: 1.0

NSQF Level: 5

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ELE/Q6708: Unmanned Aerial Systems - Operation and Maintenance Supervisor

Brief Job Description

Unmanned Aerial Systems - Operation and Maintenance Supervisor training program focuses on developing expertise in the inspection, servicing, and repair of UAS platforms. It equips learners to supervise preventive and corrective maintenance, diagnose faults in electronic and electromechanical systems, and ensure proper functioning of sensors, payloads, and flight components. The program emphasizes system reliability, airworthiness, and compliance through structured maintenance practices, diagnostics, and safety protocols, preparing professionals to manage efficient and safe UAS maintenance operations.

Personal Attributes

Assemble/repair, and maintain an unmanned aerial system (UAS/RPAS) Setup, program, and operate the UAS Manual flight demonstration and emergency procedures Autonomous flight planning and demonstration UAS Advanced piloting and embedded vision Work organization and management Communication and interpersonal skills

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ELE/N6738: Assemble, Maintain, Configure, and Operate Unmanned Aerial Systems](#)
2. [ELE/N6739: UAS Mission Planning, Flight Demonstration, and Emergency Procedures](#)
3. [ELE/N6740: UAS Embedded Vision, Imaging, and Sensor Integration](#)
4. [ELE/N6741: Workplace Coordination and Interpersonal Communication Skills](#)
5. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	E-Mobility and Battery
Occupation	Product Design & Development-EM&B
Country	India

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NSQF Level	5
Credits	17
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8212.0400
Minimum Educational Qualification & Experience	Completed 2nd year of UG (UG Diploma) (Electronics /Electrical/Mechanical and Others) with NA of experience OR Completed 3 year diploma after 10th (Electronics /Electrical/Mechanical and Others) with 1.5 years of experience Relevant Experience in Drone Technology OR Previous relevant Qualification of NSQF Level (4.5) with 1.5 years of experience Relevant Experience in Drone Technology
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	NA
Next Review Date	08/07/2029
NSQC Approval Date	08/07/2026
Version	1.0
Reference code on NQR	QG-05-EH-05309-2026-V1-ESSCI
NQR Version	1

Remarks:

NA

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ELE/N6738: Assemble, Maintain, Configure, and Operate Unmanned Aerial Systems

Description

This NOS is about assembling, maintaining, configuring, and operating Unmanned Aerial Systems (UAS) by ensuring proper system setup, flight readiness, safe operation, routine maintenance, and compliance with applicable operational procedures and regulation

Scope

The scope covers the following :

- Assemble/repair, and maintain an unmanned aerial system (UAS/RPAS)
- Setup, program, and operate the UAS

Elements and Performance Criteria

Assemble/repair, and maintain an unmanned aerial system (UAS/RPAS)

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

- PC1.** • Select appropriate troubleshooting instructions, tools, equipment, and
• verified reference documents in accordance with Standard Operating
• Procedures (SOPs).
- PC2.** • Perform preliminary inspection and functional checks of UASs,
• following recommended start-up and shutdown practices and observing
• ESD safety measures.
- PC3.** • Identify malfunctioning electronic components such as resistors,
• capacitors, diodes, transistors, ICs, motors, GPS modules, cameras, and
• power systems requiring repair or replacement.
- PC4.** • Disassemble UAS assemblies and components using approved tools
• and standard work practices, ensuring no damage to functional parts and
• maintaining ESD compliance.
- PC5.** • Inspect, test, repair, and replace defective electronic and
• electromechanical components using external power sources, diagnostic
• tools, and multimeters as per maintenance guidelines.
- PC6.** • Reassemble UASs, perform post-maintenance functional and
• diagnostic tests, address client feedback where applicable, and prepare
• maintenance and service reports using prescribed systems and methods.

Setup, program, and operate the UAS

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

- PC7.** • Conduct diagnostic tests on UAS hardware and software systems to
• assess operational effectiveness and identify faults in accordance with
• standard diagnostic procedures.
- PC8.** • Interpret and comply with applicable UAS laws, rules, airspace
• structures, and Air Traffic Control (ATC) / radio telephony procedures during
• planning and operations.

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- PC9.**
- Assemble and disassemble UAS components, sub-systems, and airframes following industry-approved practices and safety requirements.
- PC10.**
- Integrate complex sensor systems through mechanical assembly, PCB soldering, and fabrication of wiring harnesses as per technical specifications.
- PC11.**
- Perform mechanical and electrical integration of new hardware components and upgrade internal software by installing and validating firmware and software packages.
- PC12.**
- Demonstrate UAS functionality to validate flight principles, environmental readiness, and risk mitigation measures, ensuring operational safety and customer satisfaction.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Knowledge of unmanned aerial system components assembly and maintenance procedures
- KU2.** Knowledge of electronic and electromechanical troubleshooting diagnostic testing and repair techniques
- KU3.** Knowledge of UAS programming firmware software integration and sensor installation methods
- KU4.** Knowledge of aviation regulations airspace requirements ATC procedures and operational safety practices
- KU5.** Knowledge of maintenance documentation standard operating procedures ESD protection and quality standards

Generic Skills (GS)

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

- GS1.** Ability to inspect diagnose and troubleshoot unmanned aerial systems accurately
- GS2.** Ability to assemble disassemble repair and maintain UAS components using appropriate tools and equipment
- GS3.** Ability to perform software configuration firmware upgrades and system integration effectively
- GS4.** Ability to interpret technical documents follow safety procedures and comply with aviation regulations
- GS5.** Ability to prepare maintenance reports communicate with customers and ensure operational readiness and service quality

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assemble/repair, and maintain an unmanned aerial system (UAS/RPAS)</i>	6	6	-	-
PC1. - Select appropriate troubleshooting instructions, tools, equipment, and - verified reference documents in accordance with Standard Operating - Procedures (SOPs).	1	1	-	-
PC2. - Perform preliminary inspection and functional checks of UASs, - following recommended start-up and shutdown practices and observing - ESD safety measures.	1	1	-	-
PC3. - Identify malfunctioning electronic components such as resistors, - capacitors, diodes, transistors, ICs, motors, GPS modules, cameras, and - power systems requiring repair or replacement.	1	1	-	-
PC4. - Disassemble UAS assemblies and components using approved tools - and standard work practices, ensuring no damage to functional parts and - maintaining ESD compliance.	1	1	-	-
PC5. - Inspect, test, repair, and replace defective electronic and - electromechanical components using external power sources, diagnostic - tools, and multimeters as per maintenance guidelines.	1	1	-	-
PC6. - Reassemble UASs, perform post-maintenance functional and - diagnostic tests, address client feedback where applicable, and prepare - maintenance and service reports using prescribed systems and methods.	1	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Setup, program, and operate the UAS</i>	6	6	-	-
PC7. - Conduct diagnostic tests on UAS hardware and software systems to - assess operational effectiveness and identify faults in accordance with - standard diagnostic procedures.	1	1	-	-
PC8. - Interpret and comply with applicable UAS laws, rules, airspace - structures, and Air Traffic Control (ATC) / radio telephony procedures during - planning and operations.	1	1	-	-
PC9. - Assemble and disassemble UAS components, sub-systems, and - airframes following industry-approved practices and safety requirements.	1	1	-	-
PC10. - Integrate complex sensor systems through mechanical assembly, PCB - soldering, and fabrication of wiring harnesses as per technical - specifications.	1	1	-	-
PC11. - Perform mechanical and electrical integration of new hardware - components and upgrade internal software by installing and validating - firmware and software packages.	1	1	-	-
PC12. - Demonstrate UAS functionality to validate flight principles, - environmental readiness, and risk mitigation measures, ensuring - operational safety and customer satisfaction.	1	1	-	-
NOS Total	12	12	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N6738
NOS Name	Assemble, Maintain, Configure, and Operate Unmanned Aerial Systems
Sector	Electronics
Sub-Sector	
Occupation	Product Design & Development-EM&B
NSQF Level	5
Credits	4
Version	1.0
Last Reviewed Date	08/07/2026
Next Review Date	08/07/2029
NSQC Clearance Date	08/07/2026

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ELE/N6739: UAS Mission Planning, Flight Demonstration, and Emergency Procedures

Description

This NOS is about planning UAS missions, conducting flight demonstrations, and implementing emergency procedures by ensuring safe, efficient, and compliant flight operations under various operational conditions.

Scope

The scope covers the following :

- Manual flight demonstration and emergency procedures
- Autonomous flight planning and demonstration

Elements and Performance Criteria

Manual flight demonstration and emergency procedures

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

- PC1.** • Collect and document clients' requirements, operational challenges, and mission objectives using structured interaction and requirement gathering techniques.
- PC2.** • Design and modify UAS platforms and payload configurations, including integration of cameras and other devices, to meet customized client and mission requirements.
- PC3.** • Perform preliminary and pre-flight checks of UASs in accordance with common Standard Operating Procedures to ensure airworthiness and operational readiness.
- PC4.** • Configure radio controllers, communication links, and system parameters for compatibility with newly integrated payloads and devices.
- PC5.** • Pilot UASs to carry out standard flight exercises and mission-specific operations safely, in line with approved flight plans and operational goals.
- PC6.** • Execute abnormal and emergency procedures, including forced landings, completion of emergency checklists, and safe handling of loss of command and control situations.
- PC7.** • Troubleshoot post-crash or abnormal behavior using flight data, logs, simulations, and verified troubleshooting instruction sheets, tools, and equipment.
- PC8.** • Demonstrate UAS functionality to validate performance, apply RPAS/UAS emergency reporting procedures such as flyaway or loss of control, and ensure mission and customer satisfaction.

Autonomous flight planning and demonstration

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

- PC9.** • Collect, analyze, and document customer requirements, operational challenges, and mission objectives using structured requirement-gathering techniques.

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- PC10.** • Conduct pre-mission planning meetings with clients and internal teams to finalize mission scope, timelines, safety considerations, and deliverables.
- PC11.** • Develop detailed flight plans by identifying potential flight hazards, assessing environmental constraints, and coordinating airspace requirements in compliance with regulations.
- PC12.** • Select and apply appropriate troubleshooting instruction sheets, tools, equipment, and verification methods to support UAS software and system validation activities.
- PC13.** • Apply basic programming concepts to develop, modify, and test software components relevant to UAS operations.
- PC14.** • Perform basic software development tasks, including sensor integration, data acquisition, and real-time data processing.
- PC15.** • Configure and operate autopilot systems by integrating hardware and software that process sensor inputs, execute flight plans, and support autonomous decision-making.
- PC16.** • Use autopilot-enabled UAS platforms to perform autonomous operations with minimal human intervention while ensuring safety and system reliability.
- PC17.** • Plan and execute flight test plans to validate new software features, electronics, sensors, and payload integrations, documenting results as per standard practices.
- PC18.** • Use industry-standard software tools and development environments to write, upload, and validate programs for autonomous flight operations.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Knowledge of UAS flight operations mission planning and preflight inspection procedures
- KU2.** Knowledge of autonomous flight systems autopilot configuration sensor integration and software validation
- KU3.** Knowledge of aviation regulations airspace management emergency procedures and operational safety requirements
- KU4.** Knowledge of flight testing troubleshooting data analysis and performance evaluation techniques
- KU5.** Knowledge of customer requirement analysis mission documentation and reporting practices

Generic Skills (GS)

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

- GS1.** Ability to plan organize and execute manual and autonomous UAS missions safely
- GS2.** Ability to perform preflight checks configure systems and validate operational readiness
- GS3.** Ability to troubleshoot flight related issues analyze logs and implement corrective actions
- GS4.** Ability to use software tools for programming flight planning sensor integration and autonomous operations

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- GS5.** Ability to communicate effectively with customers and team members prepare mission reports and respond to emergency situations

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Manual flight demonstration and emergency procedures</i>	8	16	-	-
PC1. - Collect and document clients' requirements, operational challenges, - and mission objectives using structured interaction and requirement gathering techniques.	1	2	-	-
PC2. - Design and modify UAS platforms and payload configurations, - including integration of cameras and other devices, to meet customized - client and mission requirements.	1	2	-	-
PC3. - Perform preliminary and pre-flight checks of UASs in accordance with - common Standard Operating Procedures to ensure airworthiness and - operational readiness.	1	2	-	-
PC4. - Configure radio controllers, communication links, and system - parameters for compatibility with newly integrated payloads and devices.	1	2	-	-
PC5. - Pilot UASs to carry out standard flight exercises and mission-specific - operations safely, in line with approved flight plans and operational goals.	1	2	-	-
PC6. - Execute abnormal and emergency procedures, including forced - landings, completion of emergency checklists, and safe handling of loss of - command and control situations.	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC7. • Troubleshoot post-crash or abnormal behavior using flight data, logs, • simulations, and verified troubleshooting instruction sheets, tools, and • equipment.	1	2	-	-
PC8. • Demonstrate UAS functionality to validate performance, apply • RPAS/UAS emergency reporting procedures such as flyaway or loss of • control, and ensure mission and customer satisfaction.	1	2	-	-
<i>Autonomous flight planning and demonstration</i>	16	20	-	-
PC9. • Collect, analyze, and document customer requirements, operational • challenges, and mission objectives using structured requirement-gathering • techniques.	1	2	-	-
PC10. • Conduct pre-mission planning meetings with clients and internal • teams to finalize mission scope, timelines, safety considerations, and • deliverables.	1	2	-	-
PC11. • Develop detailed flight plans by identifying potential flight hazards, • assessing environmental constraints, and coordinating airspace • requirements in compliance with regulations.	1	2	-	-
PC12. • Select and apply appropriate troubleshooting instruction sheets, • tools, equipment, and verification methods to support UAS software and • system validation activities.	1	2	-	-
PC13. • Apply basic programming concepts to develop, modify, and test • software components relevant to UAS operations.	2	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. - Perform basic software development tasks, including sensor - integration, data acquisition, and real-time data processing.	2	2	-	-
PC15. - Configure and operate autopilot systems by integrating hardware and - software that process sensor inputs, execute flight plans, and support - autonomous decision-making.	2	2	-	-
PC16. - Use autopilot-enabled UAS platforms to perform autonomous - operations with minimal human intervention while ensuring safety and - system reliability.	2	2	-	-
PC17. - Plan and execute flight test plans to validate new software features, - electronics, sensors, and payload integrations, documenting results as per - standard practices.	2	2	-	-
PC18. - Use industry-standard software tools and development environments - to write, upload, and validate programs for autonomous flight operations.	2	2	-	-
NOS Total	24	36	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N6739
NOS Name	UAS Mission Planning, Flight Demonstration, and Emergency Procedures
Sector	Electronics
Sub-Sector	
Occupation	Product Design & Development-EM&B
NSQF Level	5
Credits	5
Version	1.0
Last Reviewed Date	08/07/2026
Next Review Date	08/07/2029
NSQC Clearance Date	08/07/2026

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ELE/N6740: UAS Embedded Vision, Imaging, and Sensor Integration

Description

This NOS is about integrating embedded vision, imaging, and sensor systems in Unmanned Aerial Systems (UAS) by configuring, calibrating, and optimizing payloads to enable accurate data acquisition and mission-specific operations.

Scope

The scope covers the following :

- UAS Advanced piloting and embedded vision

Elements and Performance Criteria

UAS Advanced piloting and embedded vision

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

- PC1.** • Demonstrate a foundational understanding of photography principles
• and camera systems used in UAS-based imaging applications.
- PC2.** • Perform preliminary check-ups of UASs to ensure sensor readiness,
• system integrity, and operational safety prior to data collection missions.
- PC3.** • Integrate advanced sensor systems such as LiDAR, 3D sensing cameras,
• infrared sensors, and obstacle-avoidance sensors in accordance with
• mission and application requirements.
- PC4.** • Configure and validate GPS modules and positioning systems to ensure
• accurate geolocation and alignment of collected data.
- PC5.** • Collect high-quality photography, videography, LiDAR, and infrared
• data using appropriate mission planning and sensor operation techniques.
- PC6.** • Use software tools to create basic imagery products and preprocess
• photo, video, LiDAR, and geospatial datasets.
- PC7.** • Implement filtering techniques, including histogram, Kalman, and
• particle filters, to improve data quality, localization accuracy, and noise
• reduction.
- PC8.** • Implement Proportional-Integral-Derivative (PID) control methods to
• support smooth and stable autonomous flight corrections.
- PC9.** • Apply Simultaneous Localisation and Mapping (SLAM) algorithms to
• enable autonomous navigation and environment mapping.
- PC10.** • Assist in the development and validation of simulation experiences
• that replicate real-world operating scenarios for testing and training
• purposes.
- PC11.** • Develop three-dimensional (3D) models and maps using LiDAR and
• sensor data, and analyze spatial information for actionable insights.
- PC12.** • Use UAS-based imaging, thermography, and sensing techniques to
• conduct industrial and external asset inspections, including flare stacks,
• tanks, bridges, and other infrastructure.

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Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Knowledge of UAS imaging systems photography principles and sensor technologies
- KU2.** Knowledge of LiDAR infrared GPS and obstacle avoidance sensor integration and operation
- KU3.** Knowledge of geospatial data collection preprocessing and three dimensional modeling techniques
- KU4.** Knowledge of filtering methods PID control and SLAM algorithms for autonomous navigation
- KU5.** Knowledge of industrial inspection applications simulation validation and operational safety practices

Generic Skills (GS)

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

- GS1.** Ability to perform pre mission checks and ensure sensor and system readiness
- GS2.** Ability to configure integrate and validate advanced UAS sensors and positioning systems
- GS3.** Ability to collect process and analyze photo video LiDAR and infrared data effectively
- GS4.** Ability to apply filtering control and mapping techniques to improve autonomous flight performance
- GS5.** Ability to create three dimensional models conduct infrastructure inspections and prepare actionable insights from collected data

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>UAS Advanced piloting and embedded vision</i>	18	24	-	-
PC1. - Demonstrate a foundational understanding of photography principles - and camera systems used in UAS-based imaging applications.	1	2	-	-
PC2. - Perform preliminary check-ups of UASs to ensure sensor readiness, - system integrity, and operational safety prior to data collection missions.	1	2	-	-
PC3. - Integrate advanced sensor systems such as LiDAR, 3D sensing cameras, - infrared sensors, and obstacle-avoidance sensors in accordance with - mission and application requirements.	1	2	-	-
PC4. - Configure and validate GPS modules and positioning systems to ensure - accurate geolocation and alignment of collected data.	1	2	-	-
PC5. - Collect high-quality photography, videography, LiDAR, and infrared - data using appropriate mission planning and sensor operation techniques.	1	2	-	-
PC6. - Use software tools to create basic imagery products and preprocess - photo, video, LiDAR, and geospatial datasets.	1	2	-	-
PC7. - Implement filtering techniques, including histogram, Kalman, and - particle filters, to improve data quality, localization accuracy, and noise - reduction.	2	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC8. - Implement Proportional-Integral-Derivative (PID) control methods to - support smooth and stable autonomous flight corrections.	2	2	-	-
PC9. - Apply Simultaneous Localisation and Mapping (SLAM) algorithms to - enable autonomous navigation and environment mapping.	2	2	-	-
PC10. - Assist in the development and validation of simulation experiences - that replicate real-world operating scenarios for testing and training - purposes.	2	2	-	-
PC11. - Develop three-dimensional (3D) models and maps using LiDAR and - sensor data, and analyze spatial information for actionable insights.	2	2	-	-
PC12. - Use UAS-based imaging, thermography, and sensing techniques to - conduct industrial and external asset inspections, including flare stacks, - tanks, bridges, and other infrastructure.	2	2	-	-
NOS Total	18	24	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N6740
NOS Name	UAS Embedded Vision, Imaging, and Sensor Integration
Sector	Electronics
Sub-Sector	
Occupation	Product Design & Development-EM&B
NSQF Level	5
Credits	5
Version	1.0
Last Reviewed Date	08/07/2026
Next Review Date	08/07/2029
NSQC Clearance Date	08/07/2026

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ELE/N6741: Workplace Coordination and Interpersonal Communication Skills

Description

This NOS is about demonstrating workplace coordination and interpersonal communication skills by collaborating with team members, communicating effectively, resolving workplace issues, and maintaining professional relationships to achieve organizational objectives.

Scope

The scope covers the following :

- Work organization and management
- Communication and interpersonal skills

Elements and Performance Criteria

Work organization and management

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

- PC1.**
 - Maintain a healthy, safe, and secure working environment by following
 - organizational safety policies, statutory requirements, and standard
 - operating procedures.
- PC2.**
 - Apply organizational safety procedures related to electrical safety, safe
 - handling of tools, batteries, and hazardous materials, including fire safety
 - practices.
- PC3.**
 - Select and use appropriate Personal Protective Equipment (PPE)
 - according to task requirements and work environment conditions.
- PC4.**
 - Plan, prioritize, and re-prioritize work activities using effective work
 - planning and scheduling techniques to meet timelines, productivity targets,
 - and quality requirements.
- PC5.**
 - Execute assigned tasks in compliance with defined quality standards
 - and stages of the quality assurance process, and explain their importance to
 - team members.
- PC6.**
 - Demonstrate effective team working by giving and receiving
 - constructive feedback, supporting colleagues, and promoting workplace
 - ethics and etiquette.
- PC7.**
 - Identify, select, and apply appropriate types of UASs in line with their
 - applications, applicable rules and regulations, and essential safety
 - precautions.
- PC8.**
 - Follow organizational reporting standards, waste management and
 - recycling practices, and continuously update professional knowledge in line
 - with industry trends and developments.

Communication and interpersonal skills

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

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- PC9.** • Interpret the principles and requirements of flight planning, including
• identification of potential flight hazards and coordination of airspace
• requirements.
- PC10.** • Identify and select appropriate types of UASs based on mission
• objectives, client requirements, and application-specific constraints.
- PC11.** • Collect, analyze, and document client requirements, operational
• issues, and mission expectations using structured communication methods.
- PC12.** • Read, interpret, and extract relevant technical data, specifications,
• and instructions from electronic documentation and publications in various
• formats.
- PC13.** • Communicate technical information clearly and effectively through
• oral, written, and digital means while using appropriate technical
• terminology and professional language.
- PC14.** • Exchange information, instructions, and advice with team members
• and stakeholders, seek clarifications, and provide constructive feedback
• using standard communication technologies.
- PC15.** • Conduct pre-mission planning meetings with clients and internal
• teams to confirm mission scope, safety requirements, timelines, and
• documentation.
- PC16.** • Create, update, organize, and maintain design and technical
• documentation such as schematics, wiring diagrams, bills of material, and
• knowledge-base or training materials.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Knowledge of workplace safety organizational procedures and regulatory compliance requirements
- KU2.** Knowledge of work planning scheduling quality assurance and resource management practices
- KU3.** Knowledge of UAS applications mission planning airspace requirements and operational safety principles
- KU4.** Knowledge of technical documentation reporting standards and information management practices
- KU5.** Knowledge of professional communication teamwork stakeholder coordination and continuous learning principles

Generic Skills (GS)

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

- GS1.** Ability to plan prioritize and organize work to achieve quality and productivity targets
- GS2.** Ability to maintain workplace safety use personal protective equipment and follow organizational procedures
- GS3.** Ability to communicate technical information clearly through verbal written and digital methods

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- GS4.** Ability to collaborate with clients team members and stakeholders to achieve mission objectives
- GS5.** Ability to prepare maintain and update technical documentation reports and project records accurately

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Work organization and management</i>	8	8	-	-
PC1. - Maintain a healthy, safe, and secure working environment by following - organizational safety policies, statutory requirements, and standard - operating procedures.	1	1	-	-
PC2. - Apply organizational safety procedures related to electrical safety, safe - handling of tools, batteries, and hazardous materials, including fire safety - practices.	1	1	-	-
PC3. - Select and use appropriate Personal Protective Equipment (PPE) - according to task requirements and work environment conditions.	1	1	-	-
PC4. - Plan, prioritize, and re-prioritize work activities using effective work - planning and scheduling techniques to meet timelines, productivity targets, - and quality requirements.	1	1	-	-
PC5. - Execute assigned tasks in compliance with defined quality standards - and stages of the quality assurance process, and explain their importance to - team members.	1	1	-	-
PC6. - Demonstrate effective team working by giving and receiving - constructive feedback, supporting colleagues, and promoting workplace - ethics and etiquette.	1	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC7. - Identify, select, and apply appropriate types of UASs in line with their - applications, applicable rules and regulations, and essential safety - precautions.	1	1	-	-
PC8. - Follow organizational reporting standards, waste management and - recycling practices, and continuously update professional knowledge in line - with industry trends and developments.	1	1	-	-
<i>Communication and interpersonal skills</i>	8	10	-	-
PC9. - Interpret the principles and requirements of flight planning, including - identification of potential flight hazards and coordination of airspace - requirements.	1	1	-	-
PC10. - Identify and select appropriate types of UASs based on mission - objectives, client requirements, and application-specific constraints.	1	1	-	-
PC11. - Collect, analyze, and document client requirements, operational - issues, and mission expectations using structured communication methods.	1	1	-	-
PC12. - Read, interpret, and extract relevant technical data, specifications, - and instructions from electronic documentation and publications in various - formats.	1	1	-	-
PC13. - Communicate technical information clearly and effectively through - oral, written, and digital means while using appropriate technical - terminology and professional language.	1	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. • Exchange information, instructions, and advice with team members • and stakeholders, seek clarifications, and provide constructive feedback • using standard communication technologies.	1	1	-	-
PC15. • Conduct pre-mission planning meetings with clients and internal • teams to confirm mission scope, safety requirements, timelines, and • documentation.	1	2	-	-
PC16. • Create, update, organize, and maintain design and technical • documentation such as schematics, wiring diagrams, bills of material, and • knowledge-base or training materials.	1	2	-	-
NOS Total	16	18	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ELE/N6741
NOS Name	Workplace Coordination and Interpersonal Communication Skills
Sector	Electronics
Sub-Sector	
Occupation	Product Design & Development-EM&B
NSQF Level	5
Credits	1
Version	1.0
Last Reviewed Date	08/07/2026
Next Review Date	08/07/2029
NSQC Clearance Date	08/07/2026

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:

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- 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.

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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

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- 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

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Assessment Criteria

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

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

Qualification Pack

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

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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	08/07/2026
Next Review Date	08/07/2029
NSQC Clearance Date	08/07/2026

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) (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 PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training centre based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

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6. 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/N6738.Assemble, Maintain, Configure, and Operate Unmanned Aerial Systems	12	12	-	-	24	20
ELE/N6739.UAS Mission Planning, Flight Demonstration, and Emergency Procedures	24	36	-	-	60	25
ELE/N6740.UAS Embedded Vision, Imaging, and Sensor Integration	18	24	-	-	42	25
ELE/N6741.Workplace Coordination and Interpersonal Communication Skills	16	18	-	-	34	20
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	90	120	-	-	210	100

Qualification Pack

Acronyms

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

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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.

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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.