

Qualification Pack



Drone Operator - Warehouse

Electives: Inventory management/ Security surveillance

QP Code: LSC/Q0402

Version: 1.0

NSQF Level: 4

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LSC/Q0402: Drone Operator - Warehouse

Brief Job Description

A Drone Operator - Warehouse is responsible for using drones in warehouse logistics operations, such as inventory management and security surveillance. The individual assembles and prepares the drone for use, performs drone flight simulation and test flight, and maintains the drone in working condition through regular maintenance. The person also collects, analyzes and utilizes relevant data, and follows the appropriate health and safety measures in drone operations.

Personal Attributes

This individual should have attention to detail with problem-solving and coordination skills. The person should be physically fit to work for long duration with concentration. The individual should be good at verbal and written communication.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [LSC/N0407: Assemble and prepare the drone for use](#)
2. [LSC/N0408: Carry out drone flight simulation and test flight](#)
3. [LSC/N0409: Identify and assess risks in drone operations](#)
4. [LSC/N0410: Maintain the drone in working condition](#)
5. [LSC/N0411: Follow appropriate health and safety measures in drone operations](#)
6. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Electives(mandatory to select at least one):

Elective 1: Inventory management

This OS unit is about utilizing drones to perform inventory management effectively

1. [LSC/N0412: Perform inventory management using drones](#)
2. [LSC/N0413: Collect, analyze and utilize the drone data concerning the inventory](#)

Elective 2: Security surveillance

This OS unit is about preparing the drone to perform warehouse security surveillance.

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1. [LSC/N0414: Prepare the drone for warehouse security surveillance](#)
2. [LSC/N0415: Perform warehouse security surveillance using drones](#)

Qualification Pack (QP) Parameters

Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance, Warehousing Operations
Country	India
NSQF Level	4
Credits	19
Aligned to NCO/ISCO/ISIC Code	NC0-2015/3139.9900 & ISCO-08/3139
Minimum Educational Qualification & Experience	12th grade Pass OR Completed 2nd year of the 3-year diploma after 10 (and pursuing a regular diploma) OR 10th grade pass with 2 Years of experience relevant experience in warehousing OR Previous relevant Qualification of NSQF Level (3(warehousing) with minimum education as 8th Grade pass) with 3 Years of experience relevant experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Drone Pilot License
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	03/05/2026
NSQF Approval Date	03/05/2023
Version	1.0
Reference code on NQR	QG-04-TW-00370-2023-V1-LSC



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NQR Version	1.0
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LSC/N0407: Assemble and prepare the drone for use

Description

This unit is about assembling and preparing the drone for use including the appropriate pre-flight checks as per the manufacturer's checklist.

Scope

The scope covers the following :

- Check the drone for damage
- Assemble the drone
- Perform pre-flight checks on the drone

Elements and Performance Criteria

Check the drone for damage

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

- PC1.** examine the drone components for damage
- PC2.** determine the requirement of repairing or replacing the drone components
- PC3.** repair or replace the damaged drone components as appropriate
- PC4.** coordinate with the drone manufacturer to resolve damage-related issues, as required

Assemble the drone

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

- PC5.** determine the drone assembly procedure by studying the manufacturer's manual
- PC6.** assemble the drone appropriately following the instructions in the manufacturer's manual
- PC7.** follow the appropriate safety measures to protect the drone components from damage while assembling them
- PC8.** check the drone for correct assembly and carry out appropriate troubleshooting, as required

Perform pre-flight checks on the drone

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

- PC9.** determine all the pre-flights checks to be conducted on the drone
- PC10.** check the drone and controller batteries are charged and charge them as required
- PC11.** examine the propellers for the correct orientation and free movement and adjust their orientation if required
- PC12.** check the camera for correct installation and make appropriate adjustments, if required
- PC13.** test the camera gimbal control for the correct functioning and check the camera for smooth movement
- PC14.** examine the drone compass for correct calibration and calibrate it, if required
- PC15.** test the Global Positioning System (GPS) for the correct functioning and carry out troubleshooting, as required
- PC16.** perform the appropriate test to check the functioning of the Return to Home (RTH) system

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- PC17.** check the wiring in the drone to ensure it is intact, and replace the damaged wires
- PC18.** test the indicator lights on the drone to ensure correct functioning and repair or replace them as appropriate
- PC19.** ensure all the necessary checks are conducted as per the drone manufacturer's checklist and appropriate troubleshooting is carried out per their instructions
- PC20.** carry out appropriate documentation concerning the pre-flight checks conducted on the drone
- PC21.** follow the drone manufacturer's checklist while preparing the drone for use, ensuring all the necessary checks are conducted

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of examining the drone components for damage
- KU2.** how to repair and replace the damaged drone components
- KU3.** the process of assembling different types of drone
- KU4.** the appropriate safety measures to be followed to protect the drone components from damage while assembling them
- KU5.** the importance of checking the drone for correct assembly and the appropriate troubleshooting to be carried out
- KU6.** how to check the drone and controller batteries for appropriate charging
- KU7.** the process of examining the propellers for the correct orientation and free movement
- KU8.** how to check the drone camera for correct installation
- KU9.** the process of testing the camera gimbal control for the correct functioning and checking the camera for smooth movement
- KU10.** how to examine the drone compass for correct calibration and calibrate it
- KU11.** how to test the Global Positioning System (GPS) and Return to Home (RTH) system for the correct functioning and carry out troubleshooting
- KU12.** the process of checking the wiring in the drone and replacing the damaged wires
- KU13.** the appropriate documentation to be completed concerning the pre-flight checks conducted on the drone
- KU14.** the importance of following the drone manufacturer's checklist while preparing the drone for use and ensuring all the necessary checks are conducted

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get information about the latest developments in the field of work
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely with co-workers and clients



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- GS5.** coordinate with co-workers to achieve work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** take quick decisions to deal with workplace emergencies/ accidents
- GS9.** evaluate all possible solutions to a problem to select the best one

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check the drone for damage</i>	5	11	-	3
PC1. examine the drone components for damage	1	3	-	1
PC2. determine the requirement of repairing or replacing the drone components	1	3	-	1
PC3. repair or replace the damaged drone components as appropriate	1	2	-	-
PC4. coordinate with the drone manufacturer to resolve damage-related issues, as required	2	3	-	1
<i>Assemble the drone</i>	7	12	-	3
PC5. determine the drone assembly procedure by studying the manufacturer's manual	1	3	-	1
PC6. assemble the drone appropriately following the instructions in the manufacturer's manual	2	3	-	-
PC7. follow the appropriate safety measures to protect the drone components from damage while assembling them	2	3	-	1
PC8. check the drone for correct assembly and carry out appropriate troubleshooting, as required	2	3	-	1
<i>Perform pre-flight checks on the drone</i>	18	37	-	4
PC9. determine all the pre-flights checks to be conducted on the drone	2	3	-	1
PC10. check the drone and controller batteries are charged and charge them as required	1	2	-	-
PC11. examine the propellers for the correct orientation and free movement and adjust their orientation if required	1	3	-	1
PC12. check the camera for correct installation and make appropriate adjustments, if required	2	3	-	-
PC13. test the camera gimbal control for the correct functioning and check the camera for smooth movement	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. examine the drone compass for correct calibration and calibrate it, if required	2	3	-	1
PC15. test the Global Positioning System (GPS) for the correct functioning and carry out troubleshooting, as required	1	3	-	-
PC16. perform the appropriate test to check the functioning of the Return to Home (RTH) system	2	3	-	-
PC17. check the wiring in the drone to ensure it is intact, and replace the damaged wires	1	3	-	1
PC18. test the indicator lights on the drone to ensure correct functioning and repair or replace them as appropriate	1	3	-	-
PC19. ensure all the necessary checks are conducted as per the drone manufacturer's checklist and appropriate troubleshooting is carried out per their instructions	2	3	-	-
PC20. carry out appropriate documentation concerning the pre-flight checks conducted on the drone	1	2	-	-
PC21. follow the drone manufacturer's checklist while preparing the drone for use, ensuring all the necessary checks are conducted	1	3	-	-
NOS Total	30	60	-	10

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National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0407
NOS Name	Assemble and prepare the drone for use
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	3
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQF Clearance Date	03/05/2023

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LSC/N0408: Carry out drone flight simulation and test flight

Description

This OS unit is about performing drone flight simulation and test flight in preparation for using a drone.

Scope

The scope covers the following :

- Simulate the drone flight
- Undertake drone test flight

Elements and Performance Criteria

Simulate the drone flight

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

- PC1.** determine the operations and controls of the drone flight simulator
- PC2.** check the controls on the drone flight simulator are working appropriately
- PC3.** select the appropriate drone make and settings in the simulator for drone flight simulation
- PC4.** plan the drone flight on the simulator with the appropriate parameters, such as distance, height, duration, etc.
- PC5.** perform pre-flight checks on the drone as per the drone simulator instructions
- PC6.** carry out drone demo flight in the drone flight simulator
- PC7.** follow the drone flight simulator instructions for the safe take-off, flight and landing of the drone
- PC8.** perform the appropriate post-flight checks on the drone in the simulation

Undertake drone test flight

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

- PC9.** follow the appropriate procedure to register the drone with the relevant authority, i.e. Digitalsky platform registration with the Directorate General of Civil Aviation (DGCA)
- PC10.** perform the applicable pre-flight assessments
- PC11.** carry out drone flight testing at the recommended altitude and appropriate patterns
- PC12.** use gimbal controls, e.g. pan, tilt and zoom, appropriately
- PC13.** perform the appropriate directional manoeuvres according to the type of drone for the loiter/hover test
- PC14.** test the drone for smooth ascend and descend during the flight
- PC15.** perform the cruise test to test the relevant factors concerning the drone's hardware and software, e.g. the drone's endurance time
- PC16.** test the drone's Return to Home (RTH) feature and landing capability
- PC17.** follow the recommended safety measures while test-flying the drone
- PC18.** identify emergencies/abnormal conditions and handle them appropriately
- PC19.** record the appropriate data concerning the drone test flight, e.g. the flight's duration, battery drain rate, issues experienced, etc.

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Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the operations and controls of a drone flight simulator
- KU2.** the appropriate selections to be made in the simulator for drone flight simulation
- KU3.** how to plan the drone flight on the simulator with appropriate parameters
- KU4.** the appropriate pre-flight and post-flight checks to be performed on a drone simulator
- KU5.** how to carry out drone demo flight in the drone flight simulator
- KU6.** the importance of registering the drone with the relevant authority
- KU7.** the necessary pre-flight assessments to be performed before the test flight of a drone
- KU8.** the process of conducting a drone's test flight
- KU9.** how to use different gimbal controls on a drone
- KU10.** the appropriate directional manoeuvres to be performed according to the type of drone for the loiter/hover test
- KU11.** the importance of testing the drone for smooth ascend and descend during the test flight
- KU12.** the importance of performing the cruise test to test the relevant factors concerning the drone's hardware and software
- KU13.** the process of testing the drone's Return to Home (RTH) feature and landing capability
- KU14.** the appropriate safety measures to be followed while test-flying the drone
- KU15.** the appropriate data to be recorded concerning the drone's test flight

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** communicate politely and professionally
- GS3.** read the relevant literature to learn about the latest developments in the field of work
- GS4.** perform work-related calculations
- GS5.** listen attentively to understand the information/ instructions being shared
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** coordinate with co-workers to achieve the work objectives
- GS8.** evaluate all possible solutions to a problem to select the best one
- GS9.** identify possible disruptions to work and take appropriate preventive measures
- GS10.** 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>Simulate the drone flight</i>	13	24	-	4
PC1. determine the operations and controls of the drone flight simulator	2	3	-	1
PC2. check the controls on the drone flight simulator are working appropriately	2	3	-	-
PC3. select the appropriate drone make and settings in the simulator for drone flight simulation	1	3	-	-
PC4. plan the drone flight on the simulator with the appropriate parameters, such as distance, height, duration, etc.	2	3	-	-
PC5. perform pre-flight checks on the drone as per the drone simulator instructions	1	3	-	1
PC6. carry out drone demo flight in the drone flight simulator	2	3	-	1
PC7. follow the drone flight simulator instructions for the safe take-off, flight and landing of the drone	1	3	-	-
PC8. perform the appropriate post-flight checks on the drone in the simulation	2	3	-	1
<i>Undertake drone test flight</i>	17	36	-	6
PC9. follow the appropriate procedure to register the drone with the relevant authority, i.e. Digitalsky platform registration with the Directorate General of Civil Aviation (DGCA)	2	3	-	-
PC10. perform the applicable pre-flight assessments	1	3	-	-
PC11. carry out drone flight testing at the recommended altitude and appropriate patterns	2	3	-	1
PC12. use gimbal controls, e.g. pan, tilt and zoom, appropriately	2	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. perform the appropriate directional manoeuvres according to the type of drone for the loiter/hover test	1	3	-	1
PC14. test the drone for smooth ascend and descend during the flight	1	3	-	1
PC15. perform the cruise test to test the relevant factors concerning the drone's hardware and software, e.g. the drone's endurance time	2	4	-	-
PC16. test the drone's Return to Home (RTH) feature and landing capability	1	3	-	1
PC17. follow the recommended safety measures while test-flying the drone	2	4	-	-
PC18. identify emergencies/abnormal conditions and handle them appropriately	1	3	-	1
PC19. record the appropriate data concerning the drone test flight, e.g. the flight's duration, battery drain rate, issues experienced, etc.	2	4	-	1
NOS Total	30	60	-	10

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National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0408
NOS Name	Carry out drone flight simulation and test flight
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	3
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQF Clearance Date	03/05/2023

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LSC/N0409: Identify and assess risks in drone operations

Description

This OS unit is about identifying and assessing risks in drone operations.

Scope

The scope covers the following :

- Identify and assess the relevant risks
- Implement appropriate risk mitigation measures

Elements and Performance Criteria

Identify and assess the relevant risks

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

- PC1.** determine the area of drone operations to identify the risks relevant to its operations
- PC2.** identify and assess the risks concerning payload delivery using drones
- PC3.** assess the risk of injury to the user and others from drone components, such as cuts and stabs from sharp and broken propellers
- PC4.** perform the fire risk analysis to determine the risk of fire that may be caused by potential battery damage, short circuit and overheating of the drone's battery
- PC5.** determine the risk of the drone crashing into people and objects, e.g. co-workers and power infrastructure
- PC6.** identify and assess the privacy risks concerning the use of drones in restricted areas

Implement appropriate risk mitigation measures

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

- PC7.** determine the requirement of getting the appropriate license and certifications, e.g. drone pilot license and drone airworthiness certificate and secure them after proper training to ensure safe drone operations
- PC8.** select a drone with the appropriate size, weight and payload capacity depending on the nature of the logistics operation
- PC9.** follow the payload specifications provided by the manufacturer to avoid any untoward incidents due to overloading
- PC10.** determine the appropriate drone controls and familiarize with their use before operating the drone
- PC11.** create awareness among co-workers and other people who may come in contact with the drone about maintaining a safe distance it
- PC12.** ensure the payload is fastened appropriately to prevent it from falling during the drone's flight
- PC13.** use compatible and manufacturer-recommended batteries in the drone to avoid overheating and short circuit-related issues
- PC14.** use drones only in the intended area, avoiding restricted areas to mitigate the privacy-related risks

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- PC15.** select an appropriate spot to operate the drone to maintain a consistent line of sight to avoid any accident due to losing sight of the drone
- PC16.** identify and follow the regulations applicable to drone operations in the selected geography
- PC17.** follow the drone manufacturer's safety guidelines while operating the drone

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of identifying and assessing the risks relevant to drone operations
- KU2.** the risks concerning payload delivery using drones and how to minimize them
- KU3.** the risk of injury to the user and others from drone components and how to minimize them
- KU4.** the process of assessing the fire risks due to potential battery damage, short circuit and overheating of the drone's battery
- KU5.** how to minimize the risk of a drone crashing into people and objects
- KU6.** the privacy risks concerning the use of drones in restricted areas
- KU7.** the requirement of getting the appropriate license and certifications for operating drones
- KU8.** the importance and process of selecting a drone with the appropriate size, weight and payload capacity, depending on the nature of the inventory management operation
- KU9.** the requirement of getting the airworthiness certifications for a drone
- KU10.** the importance of using compatible and manufacturer-recommended batteries in the drone
- KU11.** the importance of using drones only in the intended area
- KU12.** the importance of selecting an appropriate spot to operate the drone to maintain a consistent line of sight
- KU13.** the importance of identifying and following the applicable regulations concerning drone operations in the relevant geography
- KU14.** the benefit of preparing and following a safety checklist for safe drone operations

Generic Skills (GS)

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

- GS1.** maintain the appropriate notes, records, and checklists
- GS2.** read the appropriate literature to stay updated about the latest developments in the field of work
- GS3.** communicate politely and professionally
- GS4.** coordinate with co-workers to achieve the work objectives
- GS5.** provide advice and guidance to peers and subordinates
- GS6.** make appropriate decisions to improve work efficiency, achieve work objectives and deal with workplace emergencies
- GS7.** prioritize and execute tasks within the scheduled time limits
- GS8.** maintain schedules and punctuality
- GS9.** identify potential disruptions to work and take appropriate preventive measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify and assess the relevant risks</i>	12	24	-	3
PC1. determine the area of drone operations to identify the risks relevant to its operations	2	4	-	1
PC2. identify and assess the risks concerning payload delivery using drones	2	4	-	-
PC3. assess the risk of injury to the user and others from drone components, such as cuts and stabs from sharp and broken propellers	2	4	-	1
PC4. perform the fire risk analysis to determine the risk of fire that may be caused by potential battery damage, short circuit and overheating of the drone's battery	2	4	-	-
PC5. determine the risk of the drone crashing into people and objects, e.g. co-workers and power infrastructure	2	4	-	1
PC6. identify and assess the privacy risks concerning the use of drones in restricted areas	2	4	-	-
<i>Implement appropriate risk mitigation measures</i>	18	36	-	7
PC7. determine the requirement of getting the appropriate license and certifications, e.g. drone pilot license and drone airworthiness certificate and secure them after proper training to ensure safe drone operations	2	4	-	1
PC8. select a drone with the appropriate size, weight and payload capacity depending on the nature of the logistics operation	2	4	-	-
PC9. follow the payload specifications provided by the manufacturer to avoid any untoward incidents due to overloading	2	4	-	1
PC10. determine the appropriate drone controls and familiarize with their use before operating the drone	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. create awareness among co-workers and other people who may come in contact with the drone about maintaining a safe distance it	2	4	-	1
PC12. ensure the payload is fastened appropriately to prevent it from falling during the drone's flight	1	2	-	1
PC13. use compatible and manufacturer-recommended batteries in the drone to avoid overheating and short circuit-related issues	2	4	-	-
PC14. use drones only in the intended area, avoiding restricted areas to mitigate the privacy-related risks	1	2	-	1
PC15. select an appropriate spot to operate the drone to maintain a consistent line of sight to avoid any accident due to losing sight of the drone	2	4	-	-
PC16. identify and follow the regulations applicable to drone operations in the selected geography	1	2	-	1
PC17. follow the drone manufacturer's safety guidelines while operating the drone	2	4	-	1
NOS Total	30	60	-	10

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National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0409
NOS Name	Identify and assess risks in drone operations
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

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LSC/N0410: Maintain the drone in working condition

Description

This OS unit is about maintaining the drone in working condition through appropriate repair and maintenance.

Scope

The scope covers the following :

- Identify the repair and maintenance needs
- Arrange the appropriate tools, equipment and spare parts
- Carry out repair and maintenance

Elements and Performance Criteria

Identify the repair and maintenance needs

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

- PC1.** conduct appropriate pre-flight and post-flight checks on the drone regularly
- PC2.** follow the appropriate manufacturer-recommended standard testing procedures while conducting checks on the drone
- PC3.** identify damages and malfunctioning of drone components, such as propellers, battery packs, compass, etc.
- PC4.** determine the requirement of replacing the drone components based on the manufacturer's instructions

Carry out repair and maintenance

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

- PC5.** arrange the appropriate tools and equipment, e.g. precision screwdriver, slotted screwdriver, pliers, etc., ensuring they are manufacturer-recommended and compatible with the make of the drone
- PC6.** identify the relevant drone manufacturer-approved vendor(s) to procure the appropriate drone components and procure them in the required number after checking their quality
- PC7.** follow the recommended procedure to power down the drone controller and remove the battery packs
- PC8.** follow the appropriate safety procedures while handling the battery packs, e.g. allowing them to cool down before close inspection
- PC9.** disassemble the drone appropriately following the manufacturer's instructions
- PC10.** clean the relevant drone components appropriately using the recommended cleaning solution and accessories, such as the air duster in combination with a microfiber cloth
- PC11.** identify and tighten loose screws, fastenings, bolts and drone components
- PC12.** replace the damaged components, such as worn-out/damaged screws, fastenings, bolts and propellers, and adjust the orientation of relevant components
- PC13.** identify and replace the faulty motors in the drone
- PC14.** identify the loose and faulty wiring and adjust, repair or replace it as appropriate

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- PC15.** check the wiring connection points and solder them appropriately
- PC16.** examine the drone's landing gear for damage and repair or replace it as appropriate
- PC17.** identify the issues with the batteries, such as overheating or discharging too quickly and replace them with the compatible batteries
- PC18.** identify faulty compass and GPS modules and replace them with the new ones
- PC19.** remove the faulty Electronic Speed Controller (ESC) module taking appropriate precautions, and replace it with a compatible one
- PC20.** identify faults with the camera, remove the gimbal frame and replace the faulty camera following the manufacturer's instructions, ensuring correct and firm installation
- PC21.** follow the recommended maintenance schedule for different drone components
- PC22.** maintain and analyze the records concerning drone's repair and maintenance to identify and resolve recurring issues

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of conducting appropriate pre-flight and post-flight checks on the drone regularly, following the appropriate manufacturer-recommended standard testing procedures
- KU2.** the common damages found in drone components and the appropriate remedial measures to be taken
- KU3.** the use of appropriate maintenance tools and equipment, e.g. precision screwdriver, slotted screwdriver, pliers, etc.
- KU4.** the importance of using manufacturer-recommended tools, equipment and spare parts that are compatible with the make of the drone
- KU5.** the process of powering down the drone controller and removing the battery packs
- KU6.** how to disassemble different types of drones safely
- KU7.** the process of carrying out regular maintenance of a drone, e.g. cleaning, tightening loose screws, fastenings, bolts and replacing damaged and worn-out components
- KU8.** how to repair and replace wiring in a drone, including soldering
- KU9.** the common problems experienced with the drone's landing gear and how to troubleshoot them
- KU10.** the appropriate troubleshooting for common issues with a drone's batteries, compass and GPS modules, ESC, camera and gimbal
- KU11.** the recommended maintenance schedule for different drone components
- KU12.** the importance of maintaining and analyzing the repair and maintenance records

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** communicate clearly and politely with co-workers and clients



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- GS3.** read the relevant literature to get information about the latest developments in the field of work
- GS4.** listen attentively to understand the information/ instructions being shared by the speaker
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** take quick decisions to deal with workplace emergencies/ accidents
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** coordinate with co-workers to achieve work objectives

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify the repair and maintenance needs</i>	6	12	-	2
PC1. conduct appropriate pre-flight and post-flight checks on the drone regularly	2	4	-	-
PC2. follow the appropriate manufacturer-recommended standard testing procedures while conducting checks on the drone	1	2	-	1
PC3. identify damages and malfunctioning of drone components, such as propellers, battery packs, compass, etc.	2	4	-	-
PC4. determine the requirement of replacing the drone components based on the manufacturer's instructions	1	2	-	1
<i>Carry out repair and maintenance</i>	24	48	-	8
PC5. arrange the appropriate tools and equipment, e.g. precision screwdriver, slotted screwdriver, pliers, etc., ensuring they are manufacturer-recommended and compatible with the make of the drone	1	2	-	1
PC6. identify the relevant drone manufacturer-approved vendor(s) to procure the appropriate drone components and procure them in the required number after checking their quality	1	2	-	1
PC7. follow the recommended procedure to power down the drone controller and remove the battery packs	2	4	-	-
PC8. follow the appropriate safety procedures while handling the battery packs, e.g. allowing them to cool down before close inspection	1	2	-	1
PC9. disassemble the drone appropriately following the manufacturer's instructions	2	4	-	-
PC10. clean the relevant drone components appropriately using the recommended cleaning solution and accessories, such as the air duster in combination with a microfiber cloth	1	2	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. identify and tighten loose screws, fastenings, bolts and drone components	1	2	-	1
PC12. replace the damaged components, such as worn-out/damaged screws, fastenings, bolts and propellers, and adjust the orientation of relevant components	2	4	-	-
PC13. identify and replace the faulty motors in the drone	1	2	-	-
PC14. identify the loose and faulty wiring and adjust, repair or replace it as appropriate	2	4	-	-
PC15. check the wiring connection points and solder them appropriately	1	2	-	1
PC16. examine the drone's landing gear for damage and repair or replace it as appropriate	1	2	-	-
PC17. identify the issues with the batteries, such as overheating or discharging too quickly and replace them with the compatible batteries	2	4	-	-
PC18. identify faulty compass and GPS modules and replace them with the new ones	1	2	-	1
PC19. remove the faulty Electronic Speed Controller (ESC) module taking appropriate precautions, and replace it with a compatible one	1	2	-	-
PC20. identify faults with the camera, remove the gimbal frame and replace the faulty camera following the manufacturer's instructions, ensuring correct and firm installation	2	4	-	-
PC21. follow the recommended maintenance schedule for different drone components	1	2	-	1
PC22. maintain and analyze the records concerning drone's repair and maintenance to identify and resolve recurring issues	1	2	-	-
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0410
NOS Name	Maintain the drone in working condition
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQF Clearance Date	03/05/2023

Qualification Pack

LSC/N0411: Follow appropriate health and safety measures in drone operations

Description

This OS unit is about following appropriate health and safety measures in drone operations. It also covers appropriate health and safety practices at work.

Scope

The scope covers the following :

- Protect the drone from adverse conditions
- Follow the applicable drone safety regulations
- Ensure the safety of drones from wires and obstructions
- Ensure the protection of others from drones
- Maintain personal health and safety
- Ensure preparedness for emergencies
- Deal with emergencies at work

Elements and Performance Criteria

Protect the drone from adverse conditions

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

- PC1.** analyze the drone specifications provided by the manufacturer to understand the selected drone's tolerance limits, e.g. altitude, wind speed, precipitation, temperature, etc.
- PC2.** select the appropriate drone with the required weatherproofing for a better flyability
- PC3.** ensure there is adequate height and space in the selected indoor environment to prevent them from crashing into the ceiling and walls
- PC4.** select an appropriate environment for using drones to protect them from damage
- PC5.** use the drone in an environment with the recommended precipitation and temperature to avoid adverse impacts on the drone
- PC6.** protect drones from dust and water/rain for their improved life and performance

Follow the applicable drone safety regulations

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

- PC7.** determine the relevant drone safety regulations applicable in the area of operation
- PC8.** follow the applicable regulations as per the instructions of the relevant regulatory authority

Ensure the safety of drones from wires and obstructions

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

- PC9.** check the area of drone operations for overhead wires and obstructions
- PC10.** plan drone flight path appropriately, ensuring no exposure to wires and obstructions
- PC11.** follow the appropriate safety measures when using drones near overhead wires and obstructions in unavoidable circumstances

Ensure the protection of others from drones

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

- PC12.** ensure others in the vicinity of drone operations are aware of the presence of drones
- PC13.** maintain the drone at a safe distance from people and appropriate altitude to prevent any harm
- PC14.** operate the drone at the recommended speed for its effective control and prevent collision with people
- PC15.** follow the drone's planned flight path to prevent any deviations and accidents

Maintain personal health and safety

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

- PC16.** identify the requirement for relevant Personal Protection Equipment (PPE)
- PC17.** arrange the required PPE and examine it to ensure it is in usable condition, and repair or replace the defective/worn-out PPE
- PC18.** use the appropriate PPE in hazardous activities and handling hazardous materials to ensure effective personal protection
- PC19.** follow the appropriate safety practices while handling heavy objects
- PC20.** follow appropriate measures, such as appropriate hand-washing and the use of face masks and hand sanitizer, to protect against infections and common diseases
- PC21.** maintain cleanliness in the workplace

Ensure preparedness for emergencies

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

- PC22.** identify unsafe conditions and practices at work and take appropriate preventive measures or report them to the concerned authority
- PC23.** ensure the availability of a first aid box to administer first aid for relevant health emergencies
- PC24.** ensure own preparedness for fire emergencies by participating in fire drills
- PC25.** assist in checking preparedness at work for fire emergencies, i.e. checking the fire extinguishers, fire alarms, water sprinklers and smoke detectors for the correct functioning

Deal with emergencies at work

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

- PC26.** follow the organizational policy to deal with emergencies such as fire, accidents, disease outbreaks or natural calamities
- PC27.** administer immediate first aid in medical emergencies and request professional medical assistance for serious cases
- PC28.** ensure the safe use of emergency equipment according to the manufacturer's instructions
- PC29.** arrange for the emergency equipment to be repaired or replaced as required
- PC30.** report workplace emergencies/ accidents to the relevant authority in compliance with the organizational and regulatory requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of selecting an appropriate drone with the required weatherproofing and adhering to its tolerance limits

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- KU2.** the appropriate height, space and environment required for drone operations
- KU3.** the importance of protecting drones from dust and water/rain for their improved life and performance
- KU4.** the appropriate drone safety regulations and the relevant regulatory authority
- KU5.** the importance of maintaining drones at a safe distance from overhead wires and obstructions and planning the drone flight path accordingly
- KU6.** the ways to protect others from injury in the vicinity of drone operations
- KU7.** the importance of using the appropriate PPE, ensuring it is in usable condition
- KU8.** the appropriate safety practices to be followed while handling heavy objects
- KU9.** the appropriate measures to be followed to protect against infections and common diseases
- KU10.** the benefits of maintaining cleanliness in the workplace
- KU11.** the importance of identifying unsafe conditions and practices at work and taking appropriate preventive measures
- KU12.** the importance of ensuring the availability of the first aid box at work
- KU13.** the importance of ensuring own and workplace preparedness for dealing with emergencies, such as fire, accidents, disease outbreaks or natural calamities
- KU14.** how to administer first aid in medical emergencies, and the importance of requesting immediate professional medical assistance for serious cases
- KU15.** the importance of using emergency equipment safely according to the manufacturer's instructions
- KU16.** the process of reporting workplace emergencies/ accidents to the relevant authority in compliance with the organizational and regulatory requirements

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Protect the drone from adverse conditions</i>	6	12	-	2
PC1. analyze the drone specifications provided by the manufacturer to understand the selected drone's tolerance limits, e.g. altitude, wind speed, precipitation, temperature, etc.	1	2	-	1
PC2. select the appropriate drone with the required weatherproofing for a better flyability	1	2	-	-
PC3. ensure there is adequate height and space in the selected indoor environment to prevent them from crashing into the ceiling and walls	1	2	-	-
PC4. select an appropriate environment for using drones to protect them from damage	1	2	-	1
PC5. use the drone in an environment with the recommended precipitation and temperature to avoid adverse impacts on the drone	1	2	-	-
PC6. protect drones from dust and water/rain for their improved life and performance	1	2	-	-
<i>Follow the applicable drone safety regulations</i>	2	4	-	1
PC7. determine the relevant drone safety regulations applicable in the area of operation	1	2	-	1
PC8. follow the applicable regulations as per the instructions of the relevant regulatory authority	1	2	-	-
<i>Ensure the safety of drones from wires and obstructions</i>	3	6	-	1
PC9. check the area of drone operations for overhead wires and obstructions	1	2	-	1
PC10. plan drone flight path appropriately, ensuring no exposure to wires and obstructions	1	2	-	-
PC11. follow the appropriate safety measures when using drones near overhead wires and obstructions in unavoidable circumstances	1	2	-	-
<i>Ensure the protection of others from drones</i>	4	8	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure others in the vicinity of drone operations are aware of the presence of drones	1	2	-	-
PC13. maintain the drone at a safe distance from people and appropriate altitude to prevent any harm	1	2	-	-
PC14. operate the drone at the recommended speed for its effective control and prevent collision with people	1	2	-	1
PC15. follow the drone's planned flight path to prevent any deviations and accidents	1	2	-	-
<i>Maintain personal health and safety</i>	6	12	-	1
PC16. identify the requirement for relevant Personal Protection Equipment (PPE)	1	2	-	-
PC17. arrange the required PPE and examine it to ensure it is in usable condition, and repair or replace the defective/worn-out PPE	1	2	-	-
PC18. use the appropriate PPE in hazardous activities and handling hazardous materials to ensure effective personal protection	1	2	-	1
PC19. follow the appropriate safety practices while handling heavy objects	1	2	-	-
PC20. follow appropriate measures, such as appropriate hand-washing and the use of face masks and hand sanitizer, to protect against infections and common diseases	1	2	-	-
PC21. maintain cleanliness in the workplace	1	2	-	-
<i>Ensure preparedness for emergencies</i>	4	8	-	1
PC22. identify unsafe conditions and practices at work and take appropriate preventive measures or report them to the concerned authority	1	2	-	1
PC23. ensure the availability of a first aid box to administer first aid for relevant health emergencies	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. ensure own preparedness for fire emergencies by participating in fire drills	1	2	-	-
PC25. assist in checking preparedness at work for fire emergencies, i.e. checking the fire extinguishers, fire alarms, water sprinklers and smoke detectors for the correct functioning	1	2	-	-
<i>Deal with emergencies at work</i>	5	10	-	3
PC26. follow the organizational policy to deal with emergencies such as fire, accidents, disease outbreaks or natural calamities	1	2	-	-
PC27. administer immediate first aid in medical emergencies and request professional medical assistance for serious cases	1	2	-	1
PC28. ensure the safe use of emergency equipment according to the manufacturer's instructions	1	2	-	-
PC29. arrange for the emergency equipment to be repaired or replaced as required	1	2	-	1
PC30. report workplace emergencies/ accidents to the relevant authority in compliance with the organizational and regulatory requirements	1	2	-	1
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0411
NOS Name	Follow appropriate health and safety measures in drone operations
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

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.

Qualification Pack

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



Qualification Pack

- 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

Qualification Pack

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	-	-

Qualification Pack

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	-	-

Qualification Pack

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	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

Qualification Pack

LSC/N0412: Perform inventory management using drones

Description

This OS unit is about utilizing drones to perform inventory management effectively.

Scope

The scope covers the following :

- Plan the drone flight
- Monitor and inspect the inventory using drones
- Assist in inventory search and retrieval
- Assist in performing inventory audit
- Move inventory using drones
- Maintain records concerning the inventory

Elements and Performance Criteria

Plan the drone flight

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

- PC1.** determine the area to be covered by drone for inventory management
- PC2.** check the identified area to establish the usability of the drone
- PC3.** check the flight area for any restrictions, e.g. restrictions on low-altitude flying, and consider them while planning the drone flight
- PC4.** identify possible obstructions in the drone flight path and take appropriate preventive measures
- PC5.** implement appropriate measures to deal with weather-related disruptions, if the drone is planned to be used in an open space
- PC6.** determine the flight schedule, pattern, altitude, and image or video capture specifications
- PC7.** program the flight path, speed, heading, gimbal and camera actions and situational behaviour in the drone's software program

Monitor and inspect the inventory using drones

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

- PC8.** assist in effective loading, unloading and storage of inventory using drones
- PC9.** check the incoming inventory using drones to ensure receipt in the correct number/quantity
- PC10.** inspect large inventory using drones to ensure it is free from defects and damage
- PC11.** monitor the outgoing inventory to ensure it matches the customer/ client orders
- PC12.** check the inventory for appropriate stacking using drones
- PC13.** examine the inventory for correct labelling with the appropriate information, e.g. description, unit of measure, number/ quantity, etc.
- PC14.** monitor the condition of inventory and identify relevant issues with it using drones, e.g. damage or deterioration
- PC15.** use drones for the segregation of different types of inventory

Qualification Pack

PC16. assist in effective space utilization in the warehouse with the help of drones

PC17. identify the unnecessary inventory in the warehouse using drones and assist in removing them

Assist in inventory search and retrieval

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

PC18. perform inventory search using drones

PC19. assist the relevant personnel in retrieving the identified inventory with the help of drones

Assist in performing inventory audit

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

PC20. assist in performing ABC analysis using drones for different types of inventory, e.g. high-value, mid-value, and low-value inventory

PC21. assist in conducting cut-off analysis using drones

PC22. assist in preparing the relevant audit records

Move inventory using drones

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

PC23. determine the requirement of moving inventory in the warehouse using drones

PC24. select the appropriate drone with the required payload capacity for moving the inventory

PC25. fasten the inventory appropriately to the drone using the recommended fasteners

PC26. move inventory using drones, following the recommended safety guidelines

Maintain records concerning the inventory

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

PC27. assist in recording data concerning the incoming and outgoing inventory, and the monitoring and inspection of inventory

PC28. maintain data concerning the audit of inventory

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance and process of checking the identified area to establish the usability of the drone, including the applicable restrictions

KU2. the appropriate preventive measures to be taken for any obstructions in the drone flight path

KU3. the appropriate measures to be taken to deal with weather-related disruptions

KU4. how to program the flight path, speed, heading, gimbal and camera actions and situational behaviour in the drone's software program

KU5. the use of drones in the effective loading, unloading and storage of inventory

KU6. how to check the incoming and outgoing inventory using drones and the appropriate checks to be performed

KU7. the benefit of using drones to check the inventory for appropriate stacking and correct labelling, and the condition of the inventory

KU8. how to use drones for the segregation of different types of inventory and effective space utilization in the warehouse

Qualification Pack

- KU9.** how to perform inventory search using drones and retrieve the identified inventory
- KU10.** how to perform ABC analysis using drones and different types of inventory
- KU11.** how to conduct cut-off analysis using drones
- KU12.** the applicable documentation requirements concerning the auditing of inventory
- KU13.** the process of moving inventory using drones, the appropriate types of drones to be used for the purpose and the recommended safety guidelines to be followed
- KU14.** the appropriate data records to be maintained concerning the monitoring and inspection of inventory
- KU15.** the use of appropriate handheld devices for inventory management, e.g. Bar code scanner, QR code scanner, etc.
- KU16.** the applicable inventory labelling requirements
- KU17.** the importance of availing inventory insurance
- KU18.** different warehouse operations and processes
- KU19.** different types of inventory stored in warehouses and the appropriate handling practices
- KU20.** the relevant methods and processes for counting the inventory

Generic Skills (GS)

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

- GS1.** communicate politely and professionally
- GS2.** listen attentively to understand the information/instructions being shared by the speaker
- GS3.** maintain work-related notes and records
- GS4.** read the relevant literature to learn about the latest developments in the field of work
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** 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>Plan the drone flight</i>	9	18	-	2
PC1. determine the area to be covered by drone for inventory management	1	2	-	-
PC2. check the identified area to establish the usability of the drone	1	2	-	1
PC3. check the flight area for any restrictions, e.g. restrictions on low-altitude flying, and consider them while planning the drone flight	2	4	-	-
PC4. identify possible obstructions in the drone flight path and take appropriate preventive measures	1	2	-	1
PC5. implement appropriate measures to deal with weather-related disruptions, if the drone is planned to be used in an open space	2	4	-	-
PC6. determine the flight schedule, pattern, altitude, and image or video capture specifications	1	2	-	-
PC7. program the flight path, speed, heading, gimbal and camera actions and situational behaviour in the drone's software program	1	2	-	-
<i>Monitor and inspect the inventory using drones</i>	10	20	-	3
PC8. assist in effective loading, unloading and storage of inventory using drones	1	2	-	-
PC9. check the incoming inventory using drones to ensure receipt in the correct number/quantity	1	2	-	1
PC10. inspect large inventory using drones to ensure it is free from defects and damage	1	2	-	-
PC11. monitor the outgoing inventory to ensure it matches the customer/ client orders	1	2	-	-
PC12. check the inventory for appropriate stacking using drones	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. examine the inventory for correct labelling with the appropriate information, e.g. description, unit of measure, number/ quantity, etc.	1	2	-	1
PC14. monitor the condition of inventory and identify relevant issues with it using drones, e.g. damage or deterioration	1	2	-	-
PC15. use drones for the segregation of different types of inventory	1	2	-	-
PC16. assist in effective space utilization in the warehouse with the help of drones	1	2	-	1
PC17. identify the unnecessary inventory in the warehouse using drones and assist in removing them	1	2	-	-
<i>Assist in inventory search and retrieval</i>	2	4	-	1
PC18. perform inventory search using drones	1	2	-	1
PC19. assist the relevant personnel in retrieving the identified inventory with the help of drones	1	2	-	-
<i>Assist in performing inventory audit</i>	3	6	-	1
PC20. assist in performing ABC analysis using drones for different types of inventory, e.g. high-value, mid-value, and low-value inventory	1	2	-	-
PC21. assist in conducting cut-off analysis using drones	1	2	-	1
PC22. assist in preparing the relevant audit records	1	2	-	-
<i>Move inventory using drones</i>	4	8	-	2
PC23. determine the requirement of moving inventory in the warehouse using drones	1	2	-	1
PC24. select the appropriate drone with the required payload capacity for moving the inventory	1	2	-	-
PC25. fasten the inventory appropriately to the drone using the recommended fasteners	1	2	-	1

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. move inventory using drones, following the recommended safety guidelines	1	2	-	-
<i>Maintain records concerning the inventory</i>	2	4	-	1
PC27. assist in recording data concerning the incoming and outgoing inventory, and the monitoring and inspection of inventory	1	2	-	1
PC28. maintain data concerning the audit of inventory	1	2	-	-
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0412
NOS Name	Perform inventory management using drones
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQF Clearance Date	03/05/2023

Qualification Pack

LSC/N0413: Collect, analyze and utilize the drone data concerning the inventory

Description

This OS unit is about collecting data concerning the inventory in a warehouse using drones and analyzing and utilizing it.

Scope

The scope covers the following :

- Collect data using the drone
- Analyze and utilize the collected data

Elements and Performance Criteria

Collect data using the drone

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

- PC1.** ensure the drone has the appropriate type of sensors for data collection
- PC2.** install the Radio Frequency Identification (RFID) tag reader, Quick Response (QR) code and bar code scanner on the drone for scanning information from the inventory labels
- PC3.** use an appropriate type of camera with the capability to capture videos and images in the recommended resolution for appropriate purposes, such as inventory management and warehouse security surveillance
- PC4.** use sensor-based drones to collect different types of data, e.g. temperature, chemical signals, sound, etc.
- PC5.** collect data concerning batches of different types of inventory stored at different locations in the warehouse
- PC6.** identify different categories of inventory, e.g. raw materials inventory, Maintenance, Repair, and Operating (MRO) inventory, Work In Progress (WIP) inventory and finished goods inventory, in the warehouse using drones
- PC7.** collect data regarding the available inventory stock and the inventory's condition in the warehouse

Analyze and utilize the collected data

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

- PC8.** use the appropriate software to extract the drone data and decrypt the encrypted data
- PC9.** arrange the extracted data in an appropriate format for analysis
- PC10.** analyze the collected images and videos to assist in the effective management of inventory
- PC11.** decode the RFID data using the appropriate software
- PC12.** perform analysis of the scanned RFID tag, QR code and bar code data using the relevant software, and use it to maintain appropriate records
- PC13.** analyze the atmospheric data collected by the drone using the relevant software, and use it to improve the inventory storage conditions

Qualification Pack

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of sensors used in drones for data collection, e.g. temperature, chemical signals, sound, etc.
- KU2.** how to use RFID tag reader, QR code and bar code scanners with a drone
- KU3.** the appropriate type of camera to be used with a drone for capturing videos and images in an appropriate resolution
- KU4.** the use of a drone for collecting data concerning batches of different types of inventory stored at different locations in the warehouse
- KU5.** the process of identifying different categories of inventory in the warehouse using drones
- KU6.** the benefit of using a drone to collect data regarding the available inventory stock and inventory's condition in the warehouse
- KU7.** the use of appropriate software to extract the drone data and decrypt the encrypted data
- KU8.** how to arrange the extracted data in an appropriate format for analysis
- KU9.** the process of analyzing the collected images and videos to assist in the effective management of inventory
- KU10.** how to analyze the scanned RFID tag, QR code and bar code data and use it to maintain appropriate records
- KU11.** how to analyze the atmospheric data collected by the drone and use it to improve the inventory storage conditions

Generic Skills (GS)

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

- GS1.** maintain appropriate work-related notes and records
- GS2.** read the relevant manuals and literature
- GS3.** communicate politely and professionally
- GS4.** assist and coordinate the co-workers to achieve work efficiency and organizational goals
- GS5.** evaluate all possible solutions to a problem and select the best solution
- GS6.** plan and prioritize tasks to ensure their timely completion
- GS7.** take quick decisions to deal with disruptions to work and workplace emergencies
- GS8.** determine the customer requirements and work on meeting them
- GS9.** identify trends/common causes for errors and identify appropriate solutions
- GS10.** follow appropriate measures to streamline work processes

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Collect data using the drone</i>	16	33	-	5
PC1. ensure the drone has the appropriate type of sensors for data collection	2	5	-	-
PC2. install the Radio Frequency Identification (RFID) tag reader, Quick Response (QR) code and bar code scanner on the drone for scanning information from the inventory labels	2	5	-	-
PC3. use an appropriate type of camera with the capability to capture videos and images in the recommended resolution for appropriate purposes, such as inventory management and warehouse security surveillance	3	5	-	-
PC4. use sensor-based drones to collect different types of data, e.g. temperature, chemical signals, sound, etc.	2	5	-	-
PC5. collect data concerning batches of different types of inventory stored at different locations in the warehouse	3	5	-	-
PC6. identify different categories of inventory, e.g. raw materials inventory, Maintenance, Repair, and Operating (MRO) inventory, Work In Progress (WIP) inventory and finished goods inventory, in the warehouse using drones	2	4	-	-
PC7. collect data regarding the available inventory stock and the inventory's condition in the warehouse	2	4	-	-
<i>Analyze and utilize the collected data</i>	14	27	-	5
PC8. use the appropriate software to extract the drone data and decrypt the encrypted data	2	4	-	-
PC9. arrange the extracted data in an appropriate format for analysis	3	5	-	-
PC10. analyze the collected images and videos to assist in the effective management of inventory	2	4	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. decode the RFID data using the appropriate software	3	5	-	-
PC12. perform analysis of the scanned RFID tag, QR code and bar code data using the relevant software, and use it to maintain appropriate records	2	4	-	-
PC13. analyze the atmospheric data collected by the drone using the relevant software, and use it to improve the inventory storage conditions	2	5	-	-
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0413
NOS Name	Collect, analyze and utilize the drone data concerning the inventory
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

Qualification Pack

LSC/N0414: Prepare the drone for warehouse security surveillance

Description

This OS unit is about preparing the drone to perform warehouse security surveillance.

Scope

The scope covers the following :

- Identify warehouse areas for surveillance
- Obtain the required approvals

Elements and Performance Criteria

Identify warehouse areas for surveillance

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

- PC1.** coordinate with the relevant personnel, e.g. warehouse in-charge, to identify the sensitive warehouse areas requiring security surveillance, such as entry/exit, and areas with high-value inventory or infrastructure
- PC2.** check the identified areas to determine the availability of adequate space for safe drone operations
- PC3.** check if there are obstructions and safety hazards in the identified areas that may impact drone operations
- PC4.** coordinate with the warehouse in-charge to remove the identified obstructions and minimize the safety hazards

Obtain the required approvals

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

- PC5.** determine the requirement for obtaining the necessary approvals and certifications for deploying drones
- PC6.** coordinate with the relevant authority to obtain the required approvals and certifications for undertaking security surveillance using drones
- PC7.** maintain appropriate documentation concerning the approvals obtained for deploying drones in the warehouse for security surveillance

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the sensitive warehouse areas that require security surveillance, such as entry/exit, and areas with high-value inventory or infrastructure
- KU2.** the appropriate checks to be performed in a warehouse to determine the usability of the drone
- KU3.** the necessary approvals and certifications required for deploying drones and the relevant authority to be contacted for the purpose

Qualification Pack

KU4. the importance of deploying drones for security surveillance in the warehouse with the necessary approvals from the relevant authority in the organization

Generic Skills (GS)

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

- GS1.** maintain appropriate work-related notes and records
- GS2.** read the relevant manuals and literature
- GS3.** communicate politely and professionally
- GS4.** assist and coordinate the co-workers to achieve work efficiency and organizational goals
- GS5.** evaluate all possible solutions to a problem and select the best solution
- GS6.** plan and prioritize tasks to ensure their timely completion
- GS7.** take quick decisions to deal with disruptions to work and workplace emergencies
- GS8.** determine the customer requirements and work on meeting them
- GS9.** identify trends/common causes for errors and identify appropriate solutions
- GS10.** follow appropriate measures to streamline work processes

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify warehouse areas for surveillance</i>	17	34	-	5
PC1. coordinate with the relevant personnel, e.g. warehouse in-charge, to identify the sensitive warehouse areas requiring security surveillance, such as entry/exit, and areas with high-value inventory or infrastructure	4	9	-	1
PC2. check the identified areas to determine the availability of adequate space for safe drone operations	4	8	-	2
PC3. check if there are obstructions and safety hazards in the identified areas that may impact drone operations	4	9	-	1
PC4. coordinate with the warehouse in-charge to remove the identified obstructions and minimize the safety hazards	5	8	-	1
<i>Obtain the required approvals</i>	13	26	-	5
PC5. determine the requirement for obtaining the necessary approvals and certifications for deploying drones	4	8	-	1
PC6. coordinate with the relevant authority to obtain the required approvals and certifications for undertaking security surveillance using drones	5	9	-	2
PC7. maintain appropriate documentation concerning the approvals obtained for deploying drones in the warehouse for security surveillance	4	9	-	2
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0414
NOS Name	Prepare the drone for warehouse security surveillance
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

Qualification Pack

LSC/N0415: Perform warehouse security surveillance using drones

Description

This OS unit is about performing warehouse security surveillance using drones.

Scope

The scope covers the following :

- Perform security surveillance
- Maintain the security surveillance archives

Elements and Performance Criteria

Perform security surveillance

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

- PC1.** use drone to perform security surveillance in the identified areas in the warehouse
- PC2.** track the movement of warehouse personnel using drones and identify suspicious activities/movement
- PC3.** monitor the movement of inventory in the warehouse to ensure no suspicious or irregular inventory movement in and out of the warehouse
- PC4.** use the drone in the appropriate areas as per the approvals granted for security surveillance
- PC5.** capture still images and videos in the warehouse using the camera mounted on the drone for subsequent analysis
- PC6.** use different angles, altitudes and resolutions for detailed image and video capturing for effective security surveillance
- PC7.** perform real-time security surveillance using a drone with a live video camera, monitoring the appropriate areas in the warehouse
- PC8.** coordinate with the security personnel to immediately address any security concerns identified during real-time security surveillance, such as trespassing in the warehouse
- PC9.** extract the images and videos captured by the drone's camera on a computer
- PC10.** select and use appropriate software for image and video processing, as required
- PC11.** carry out photogrammetry and image geotagging for the images captured in large warehouses, as required
- PC12.** analyze the captured still images and videos to identify lapses and scope of improvement in warehouse security
- PC13.** coordinate with the warehouse in-charge to identify appropriate solutions to security concerns and assist in their implementation
- PC14.** use drones for effective security incident management in the warehouse

Maintain the security surveillance archives

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

- PC15.** maintain archives of the images and videos captured during security surveillance as per the organizational policy

Qualification Pack

- PC16.** assist in retrieving and analyzing images and videos from security surveillance archives, as required
- PC17.** maintain appropriate data backups to protect against the accidental loss of security surveillance data
- PC18.** follow the appropriate data security guidelines, ensuring only authorized personnel have access to the security surveillance archives

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of ensuring effective security surveillance in the warehouse
- KU2.** different warehouse operations and processes
- KU3.** different types of inventory stored in warehouses and the appropriate handling practices
- KU4.** the benefit of using drones for warehouse security surveillance
- KU5.** the appropriate safety measures to be followed while using a drone in the warehouse
- KU6.** the importance and process of tracking the movement of warehouse personnel and inventory using drones
- KU7.** the importance of using a drone as per the approvals granted for security surveillance
- KU8.** the process of capturing still images and videos using the camera mounted on the drone
- KU9.** how to perform real-time security surveillance using a drone with a live video camera, and the importance of taking appropriate action promptly in case security concerns are identified
- KU10.** the use of the appropriate software for image and video processing
- KU11.** how to carry out photogrammetry and image geotagging
- KU12.** the importance and process of analyzing the captured still images and videos to identify lapses and scope of improvement in warehouse security
- KU13.** the benefit of using drones for effective security incident management in the warehouse
- KU14.** the importance of maintaining archives of the images and videos captured during security surveillance
- KU15.** the importance of maintaining data backups to protect against the accidental loss of security surveillance data
- KU16.** the importance of ensuring access to the security surveillance archives only by the authorized personnel

Generic Skills (GS)

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

- GS1.** maintain the appropriate notes, records, and checklists
- GS2.** read the appropriate literature to stay updated about the latest developments in the field of work
- GS3.** communicate politely and professionally
- GS4.** coordinate with co-workers to achieve the work objectives
- GS5.** provide advice and guidance to peers and subordinates



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- GS6.** make appropriate decisions to improve work efficiency and achieve work objectives
- GS7.** prioritize and execute tasks within the scheduled time limits
- GS8.** maintain schedules and punctuality
- GS9.** identify potential disruptions to work and take appropriate preventive measures

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform security surveillance</i>	22	44	-	7
PC1. use drone to perform security surveillance in the identified areas in the warehouse	2	3	-	-
PC2. track the movement of warehouse personnel using drones and identify suspicious activities/ movement	2	3	-	1
PC3. monitor the movement of inventory in the warehouse to ensure no suspicious or irregular inventory movement in and out of the warehouse	1	2	-	1
PC4. use the drone in the appropriate areas as per the approvals granted for security surveillance	1	2	-	-
PC5. capture still images and videos in the warehouse using the camera mounted on the drone for subsequent analysis	2	2	-	1
PC6. use different angles, altitudes and resolutions for detailed image and video capturing for effective security surveillance	2	2	-	-
PC7. perform real-time security surveillance using a drone with a live video camera, monitoring the appropriate areas in the warehouse	1	2	-	1
PC8. coordinate with the security personnel to immediately address any security concerns identified during real-time security surveillance, such as trespassing in the warehouse	2	4	-	-
PC9. extract the images and videos captured by the drone's camera on a computer	1	4	-	1
PC10. select and use appropriate software for image and video processing, as required	1	4	-	-
PC11. carry out photogrammetry and image geotagging for the images captured in large warehouses, as required	2	4	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. analyze the captured still images and videos to identify lapses and scope of improvement in warehouse security	1	4	-	-
PC13. coordinate with the warehouse in-charge to identify appropriate solutions to security concerns and assist in their implementation	2	4	-	-
PC14. use drones for effective security incident management in the warehouse	2	4	-	1
<i>Maintain the security surveillance archives</i>	8	16	-	3
PC15. maintain archives of the images and videos captured during security surveillance as per the organizational policy	2	4	-	1
PC16. assist in retrieving and analyzing images and videos from security surveillance archives, as required	2	4	-	-
PC17. maintain appropriate data backups to protect against the accidental loss of security surveillance data	2	4	-	1
PC18. follow the appropriate data security guidelines, ensuring only authorized personnel have access to the security surveillance archives	2	4	-	1
NOS Total	30	60	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0415
NOS Name	Perform warehouse security surveillance using drones
Sector	Logistics
Sub-Sector	Warehousing (Storage & Packaging)
Occupation	Engineering/Maintenance
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	03/05/2026
NSQC Clearance Date	03/05/2023

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 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 center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
5. To pass the Qualification Pack, every trainee should score a minimum of 70% for NSQF level 4 & above job roles and 50% for NSQF level 1 to 3 job roles
6. In case of unsuccessful completion, the trainee may seek re-assessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

Qualification Pack

(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
LSC/N0407.Assemble and prepare the drone for use	30	60	-	10	100	20
LSC/N0408.Carry out drone flight simulation and test flight	30	60	-	10	100	20
LSC/N0409.Identify and assess risks in drone operations	30	60	-	10	100	10
LSC/N0410.Maintain the drone in working condition	30	60	-	10	100	10
LSC/N0411.Follow appropriate health and safety measures in drone operations	30	60	-	10	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
Total	170	330	-	50	550	80

Elective: 1 Inventory management

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0412.Perform inventory management using drones	30	60	-	10	100	10
LSC/N0413.Collect, analyze and utilize the drone data concerning the inventory	30	60	-	10	100	10
Total	60	120	-	20	200	20



Qualification Pack

Elective: 2 Security surveillance

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0414.Prepare the drone for warehouse security surveillance	30	60	-	10	100	10
LSC/N0415.Perform warehouse security surveillance using drones	30	60	-	10	100	10
Total	60	120	-	20	200	20



Qualification Pack

Acronyms

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

Qualification Pack

Glossary

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

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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.