



Controlled Atmosphere (CA) Store Technician

QP Code: AGR/Q7508

Version: 2.0

NSQF Level: 5

Agriculture Skill Council of India || 6th Floor, GNG Tower, Plot No. 10, Sector -44, Gurgaon
Haryana-122004 || email:mohit@advisoryfeedback.com

Contents

AGR/Q7508: Controlled Atmosphere (CA) Store Technician	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
AGR/N7529: Coordinate the incoming and outgoing stock	6
AGR/N7532: Prepare the CA equipment for operation	11
AGR/N7533: Operate the CA equipment	16
AGR/N7534: Maintain the CA equipment, chamber, cold store stock and infrastructure	21
AGR/N7535: Follow appropriate safety measures during the CA equipment operation	29
AGR/N7530: Maintain the cold store stock and infrastructure	34
AGR/N9903: Maintain health and safety at the workplace	38
DGT/VSQ/N0103: Employability Skills (90 Hours)	44
Assessment Guidelines and Weightage	52
<i>Assessment Guidelines</i>	52
<i>Assessment Weightage</i>	53
Acronyms	54
Glossary	55

AGR/Q7508: Controlled Atmosphere (CA) Store Technician

Brief Job Description

A Controlled Atmosphere (CA) Store Technician is responsible for coordinating the incoming and outgoing stock and operating and maintaining the Controlled Atmosphere (CA) cold storage equipment, which includes setting up the equipment for use, operating it, and carrying out its regular repair and maintenance. The individual is responsible for maintaining the appropriate carbon dioxide, oxygen and nitrogen levels in the cold storage by operating the CA equipment accordingly.

Personal Attributes

The individual should have an eye for detail and problem-solving skills. The person should be able to take independent decisions and work for long durations. The individual should have appropriate verbal and written communication skills

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N7529: Coordinate the incoming and outgoing stock](#)
2. [AGR/N7532: Prepare the CA equipment for operation](#)
3. [AGR/N7533: Operate the CA equipment](#)
4. [AGR/N7534: Maintain the CA equipment, chamber, cold store stock and infrastructure](#)
5. [AGR/N7535: Follow appropriate safety measures during the CA equipment operation](#)
6. [AGR/N7530: Maintain the cold store stock and infrastructure](#)
7. [AGR/N9903: Maintain health and safety at the workplace](#)
8. [DGT/VSQ/N0103: Employability Skills \(90 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-Harvest Supply Chain Management
Country	India

NSQF Level	5
Credits	17
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7127
Minimum Educational Qualification & Experience	Completed 2nd year of UG (UG Diploma) OR Pursuing 2nd year of UG (and continuous education) OR Completed 2nd year diploma after 12th OR Pursuing 2nd year of 2-year diploma after 12th OR 12th pass with 1 year Vocational Education & training (NTC or NAC or CITS) OR Completed 3-year diploma (after 10th) with 1 Year of experience in the relevant field OR 12th grade Pass with 2 Years of experience in the relevant field OR 10th grade pass with 4 Years of experience in the relevant field OR Previous relevant Qualification of NSQF Level (4) (and with minimum education as 8th grade pass) with 3 Years of experience in the relevant field OR Previous relevant Qualification of NSQF Level (4.5) (with 1.5 years of relevant experience)
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	23 Years
Last Reviewed On	NA
Next Review Date	29/03/2026
Deactivation Date	17/12/2024
NSQC Approval Date	29/03/2023
Version	2.0
Reference code on NQR	QG-05-AG-00346-2023-V1-ASCI

NQR Version	1
--------------------	---

AGR/N7529: Coordinate the incoming and outgoing stock

Description

This OS unit is about coordinating incoming and outgoing stock at a cold store.

Scope

The scope covers the following :

- Coordinate the receipt of incoming stock
- Coordinate the dispatch of outgoing stock

Elements and Performance Criteria

Coordinate the receipt of incoming stock

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

- PC1.** collect information about the incoming stock from the relevant source, i.e. appropriate documentation or the supervisor
- PC2.** check the invoice and incoming stock to ensure delivery as per the invoice
- PC3.** collect the relevant documents from the logistics partner and check them
- PC4.** carry out appropriate documentation concerning the incoming stock, e.g. issuing acknowledgement receipt for the incoming stock to the logistics partner
- PC5.** maintain the appropriate records in the relevant computer application and physical registers concerning the incoming stock

Coordinate the dispatch of outgoing stock

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

- PC6.** collect information concerning the schedule of outgoing stock
- PC7.** ensure the availability of adequate stock for delivery to the relevant markets/buyers
- PC8.** check the stock to it meets the applicable quality standards and take the appropriate measures to resolve any issues concerning the quality of stock
- PC9.** prepare the relevant paperwork for the dispatch of outgoing stock
- PC10.** coordinate with the logistics partners for the timely dispatch and delivery of stock, ensuring appropriate arrangements to maintain the quality of produce during transit
- PC11.** coordinate with the buyers to resolve any issues reported with the outgoing stock
- PC12.** maintain appropriate records concerning the outgoing stock

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the benefits of storing perishable agricultural and horticultural produce in the cold store
- KU2.** the importance and process of checking the incoming and outgoing stock
- KU3.** the relevant documentation, e.g. invoicing and dispatch paperwork, carried out concerning the incoming and outgoing stock

- KU4.** how to maintain records manually and electronically using the physical registers and the relevant computer application
- KU5.** the process of scheduling the outgoing stock
- KU6.** the importance of ensuring the availability of adequate stock for delivery to the relevant markets/buyers
- KU7.** the quality standards applicable to agricultural and horticultural produce
- KU8.** the importance of using appropriate logistics partners for the timely dispatch and delivery of stock
- KU9.** the appropriate precautions to be taken to maintain the quality of produce during transit
- KU10.** the use of appropriate inventory management software application

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.** listen attentively to understand the information being shared
- GS4.** read the relevant literature
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** take quick decisions to deal with workplace emergencies
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** coordinate with the co-workers and stakeholders to achieve the work objectives

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Coordinate the receipt of incoming stock</i>	13	19	-	13
PC1. collect information about the incoming stock from the relevant source, i.e. appropriate documentation or the supervisor	-	-	-	-
PC2. check the invoice and incoming stock to ensure delivery as per the invoice	-	-	-	-
PC3. collect the relevant documents from the logistics partner and check them	-	-	-	-
PC4. carry out appropriate documentation concerning the incoming stock, e.g. issuing acknowledgement receipt for the incoming stock to the logistics partner	-	-	-	-
PC5. maintain the appropriate records in the relevant computer application and physical registers concerning the incoming stock	-	-	-	-
<i>Coordinate the dispatch of outgoing stock</i>	17	21	-	17
PC6. collect information concerning the schedule of outgoing stock	-	-	-	-
PC7. ensure the availability of adequate stock for delivery to the relevant markets/buyers	-	-	-	-
PC8. check the stock to it meets the applicable quality standards and take the appropriate measures to resolve any issues concerning the quality of stock	-	-	-	-
PC9. prepare the relevant paperwork for the dispatch of outgoing stock	-	-	-	-
PC10. coordinate with the logistics partners for the timely dispatch and delivery of stock, ensuring appropriate arrangements to maintain the quality of produce during transit	-	-	-	-
PC11. coordinate with the buyers to resolve any issues reported with the outgoing stock	-	-	-	-
PC12. maintain appropriate records concerning the outgoing stock	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7529
NOS Name	Coordinate the incoming and outgoing stock
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-Harvest Supply Chain Management
NSQF Level	5
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N7532: Prepare the CA equipment for operation

Description

This OS is about preparing the CA equipment for operation by conducting regular checks and appropriate repairs.

Scope

The scope covers the following :

- Perform regular checks on the CA equipment
- Follow checklists and maintain records

Elements and Performance Criteria

Perform regular checks on the CA equipment

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

- PC1.** inspect the CA equipment to identify the signs of wear and tear or damage, e.g. worn out bearings, chains, scrubbers and belts or cracks and leakages in the equipment
- PC2.** check the relevant equipment parameters to ensure they are set to the recommended values
- PC3.** check the carbon dioxide, oxygen, nitrogen and other gas levels and refill the gases as required
- PC4.** check the pull-down period, holding period, operating parameters, power consumption, and motor load are as recommended
- PC5.** check the equipment temperature and humidity levels are as recommended
- PC6.** examine the relevant oil/coolant/fluid levels in the relevant equipment components, e.g. radiator, and refill them as required
- PC7.** inspect the filters for clogging and clean or replace them as required
- PC8.** check the centralized Programmable Logic Controller (PLC) system for the correct functioning and perform appropriate troubleshooting
- PC9.** check the absorber, valves, sensors, relief valves, analyzers, safety monitors etc., for wear and tear/ damage and correct functioning
- PC10.** repair or replace the absorber, valves, sensors, relief valves, analyzers, and safety monitors as appropriate
- PC11.** identify the signs of malfunctioning in the equipment and take appropriate corrective measures
- PC12.** coordinate with the Original Equipment Manufacturer (OEM) to resolve the manufacturing defect-related issues

Follow checklists and maintain records

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

- PC13.** follow the equipment inspection checklist provided by the manufacturer to ensure all the equipment components are working properly before operating the equipment
- PC14.** maintain the appropriate records concerning the regular checks performed on the equipment

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of cold storage and their working
- KU2.** the pre-operational checks required to be conducted before operating the CA equipment
- KU3.** the functions and operations of the CA equipment in the CA cold storage
- KU4.** different components, controls and functions of CA equipment
- KU5.** the appropriate adjustment to be made to the CA equipment according to the type of produce
- KU6.** the CA equipment power requirement, automation, safety devices and emergency systems
- KU7.** the relevant material handling procedures
- KU8.** the relevant occupational hazards and how to deal with them

Generic Skills (GS)

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

- GS1.** communicate politely and professionally
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** maintain work-related notes and records
- GS4.** listen attentively to understand the instructions being given
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** coordinate with the co-workers to achieve the work objectives
- GS7.** use time and resources efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform regular checks on the CA equipment</i>	24	32	-	24
PC1. inspect the CA equipment to identify the signs of wear and tear or damage, e.g. worn out bearings, chains, scrubbers and belts or cracks and leakages in the equipment	-	-	-	-
PC2. check the relevant equipment parameters to ensure they are set to the recommended values	-	-	-	-
PC3. check the carbon dioxide, oxygen, nitrogen and other gas levels and refill the gases as required	-	-	-	-
PC4. check the pull-down period, holding period, operating parameters, power consumption, and motor load are as recommended	-	-	-	-
PC5. check the equipment temperature and humidity levels are as recommended	-	-	-	-
PC6. examine the relevant oil/coolant/fluid levels in the relevant equipment components, e.g. radiator, and refill them as required	-	-	-	-
PC7. inspect the filters for clogging and clean or replace them as required	-	-	-	-
PC8. check the centralized Programmable Logic Controller (PLC) system for the correct functioning and perform appropriate troubleshooting	-	-	-	-
PC9. check the absorber, valves, sensors, relief valves, analyzers, safety monitors etc., for wear and tear/ damage and correct functioning	-	-	-	-
PC10. repair or replace the absorber, valves, sensors, relief valves, analyzers, and safety monitors as appropriate	-	-	-	-
PC11. identify the signs of malfunctioning in the equipment and take appropriate corrective measures	-	-	-	-
PC12. coordinate with the Original Equipment Manufacturer (OEM) to resolve the manufacturing defect-related issues	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow checklists and maintain records</i>	6	8	-	6
PC13. follow the equipment inspection checklist provided by the manufacturer to ensure all the equipment components are working properly before operating the equipment	-	-	-	-
PC14. maintain the appropriate records concerning the regular checks performed on the equipment	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7532
NOS Name	Prepare the CA equipment for operation
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-harvest Supply Chain Management
NSQF Level	5
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N7533: Operate the CA equipment

Description

This OS unit is about operating the CA equipment in the CA store as per the applicable procedure. It also covers the incorporation non-Ozone Depleting Substances (ODS) and low-Global Warming Potential (GWP) refrigerants in the cold storage operations.

Scope

The scope covers the following :

- Check the produce
- Operate the CA equipment
- Use the non-ODS and low-GWP technologies

Elements and Performance Criteria

Check the produce

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

- PC1.** check and sort out the damaged and unsuitable produce
- PC2.** determine the ripeness of produce
- PC3.** ensure the produce is appropriately pre-cooled and packed before being stored in the CA store
- PC4.** determine the appropriate temperature and humidity requirements for storing the produce

Operate the CA equipment

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

- PC5.** check the temperature and humidity levels in the CA store
- PC6.** turn on the CA equipment following the standard procedure
- PC7.** check all the displays, indicators and meters to ensure the relevant parameters are as recommended and there are no warning signs/signals
- PC8.** maintain the recommended carbon dioxide and oxygen concentration levels according to the type of produce being stored
- PC9.** operate the CA equipment in a safe and controlled manner as per the manufacturer's instructions to achieve optimum equipment performance
- PC10.** check the pressure levels for different gases and Relative Humidity (RH) levels at the recommended intervals to ensure they are as recommended
- PC11.** follow the recommended measures to maintain the quality of produce during its handling and storage
- PC12.** maintain the relevant records concerning the CA equipment operations as per the organizational procedures

Use the non-ODS and low-GWP technologies

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

- PC13.** use the recommended energy-efficient cooling technologies
- PC14.** use non-ODS and low-GWP technologies

PC15. handle flammable and toxic refrigerants following the recommended safety protocols

PC16. comply with the applicable environmental protection regulations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the relevant CA equipment operating and maintenance procedures
- KU2.** the safety measures to be taken while operating the CA equipment
- KU3.** the relevant BIS/ISO/IS regulations
- KU4.** the Hazard Analysis Critical Control Point (HACCP) management system
- KU5.** the appropriate CA store conditions required for the safe usage of CA equipment
- KU6.** the appropriate carbon dioxide, oxygen and nitrogen levels required to maintain the shelf life of different types of produce
- KU7.** the benefits and methods of automation
- KU8.** the importance of monitoring the equipment during the operation
- KU9.** the ripening process for different types of produce
- KU10.** the appropriate practices to be followed to minimize the deterioration and loss of produce during storage
- KU11.** the benefits and process of using non-ODS, low-GWP refrigerants and energy-efficient cooling technologies in the cold chain sector
- KU12.** the relevant provisions of the National Building Code (NBC) of India concerning the construction of non-ODS, low-GWP refrigerant-using cold storages
- KU13.** the importance of modernizing the cold storage refrigeration systems
- KU14.** the importance of using insulation prepared by using non-ODS blowing agents
- KU15.** the energy efficiency norms for refrigerators used in cold storages
- KU16.** the applicable Bureau of Indian Standards (BIS) on the safety for flammable and toxic refrigerants for cold storage and other segments of the cold chain
- KU17.** the benefits of using thermal insulation, humidity controlled, advance cooling systems, and energy-efficient automation technologies, etc.
- KU18.** the benefits of integrated cold chain and preservation infrastructure facilities

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the instructions being given
- GS4.** communicate politely and professionally
- GS5.** coordinate with the co-workers to achieve the work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** use time and resources efficiently
- GS8.** take quick decisions to deal with any emergencies/ accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check the produce</i>	8	11	-	8
PC1. check and sort out the damaged and unsuitable produce	-	-	-	-
PC2. determine the ripeness of produce	-	-	-	-
PC3. ensure the produce is appropriately pre-cooled and packed before being stored in the CA store	-	-	-	-
PC4. determine the appropriate temperature and humidity requirements for storing the produce	-	-	-	-
<i>Operate the CA equipment</i>	14	18	-	14
PC5. check the temperature and humidity levels in the CA store	-	-	-	-
PC6. turn on the CA equipment following the standard procedure	-	-	-	-
PC7. check all the displays, indicators and meters to ensure the relevant parameters are as recommended and there are no warning signs/signals	-	-	-	-
PC8. maintain the recommended carbon dioxide and oxygen concentration levels according to the type of produce being stored	-	-	-	-
PC9. operate the CA equipment in a safe and controlled manner as per the manufacturer's instructions to achieve optimum equipment performance	-	-	-	-
PC10. check the pressure levels for different gases and Relative Humidity (RH) levels at the recommended intervals to ensure they are as recommended	-	-	-	-
PC11. follow the recommended measures to maintain the quality of produce during its handling and storage	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. maintain the relevant records concerning the CA equipment operations as per the organizational procedures	-	-	-	-
<i>Use the non-ODS and low-GWP technologies</i>	8	11	-	8
PC13. use the recommended energy-efficient cooling technologies	-	-	-	-
PC14. use non-ODS and low-GWP technologies	-	-	-	-
PC15. handle flammable and toxic refrigerants following the recommended safety protocols	-	-	-	-
PC16. comply with the applicable environmental protection regulations	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7533
NOS Name	Operate the CA equipment
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-harvest Supply Chain Management
NSQF Level	5
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N7534: Maintain the CA equipment, chamber, cold store stock and infrastructure

Description

This OS unit is about undertaking periodic repair and maintenance of the CA equipment and chamber. It also covers maintaining the stock in the cold store and the physical infrastructure of the cold store.

Scope

The scope covers the following :

- Check and maintain the CA equipment
- Check and maintain the CA chamber
- Check the standby power source and safety measures
- Maintain the cold store stock
- Maintain the cold store infrastructure
- Maintain and analyze the maintenance records

Elements and Performance Criteria

Check and maintain the CA equipment

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

- PC1.** check the N2 and atmospheric air generator filters for the correct functioning
- PC2.** examine the oil levels of generators/ compressors to ensure they are as recommended
- PC3.** ensure the belts of the air handling units have the recommended tension levels
- PC4.** check the scrubber, ventilation systems and humidifiers for the appropriate functioning and carry out troubleshooting as required
- PC5.** check the gas pressure indicator, ethylene, CO2 and O2 concentration indicators, and temperature and humidity sensors for the correct functioning
- PC6.** carry out the regular repair and maintenance of various CA chamber equipment
- PC7.** use the appropriate components and maintenance tools and equipment as recommended by the OEM

Check and maintain the CA chamber

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

- PC8.** examine the ventilation system of the CA chamber for appropriate functioning and carry out troubleshooting as required
- PC9.** ensure the CA chamber seals are intact and there are no gas leakages
- PC10.** identify leakages from the CA chamber and plug them promptly
- PC11.** check the CA chamber door gaskets for the signs of wear and tear or damage, and replace them as required
- PC12.** identify aberrations/ fluctuations in the gas pressure and RH levels, and undertake appropriate remedial measures

Check the standby power source and safety measures

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

- PC13.** check the standby power source to ensure it is working appropriately
- PC14.** check the water level of safety relief valves to ensure it is as recommended
- PC15.** check the pressure relief valves for the signs of wear and tear or damage, and replace them as required
- PC16.** check the refrigeration load, pull down period, holding period and power consumption to ensure they are as recommended

Maintain the cold store stock

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

- PC17.** check the stock stored in the cold store regularly to ensure its quality is maintained
- PC18.** identify issues with the stock, e.g. deterioration of produce and take appropriate remedial measures
- PC19.** check the stock to ensure appropriate labelling/ tagging
- PC20.** ensure storage of different types of produce separately to avoid mixing of stock and facilitate easy stock retrieval
- PC21.** follow the recommended practices to protect the produce from damage and contamination in the cold store
- PC22.** follow the organizational policy and applicable food safety standards to maintain the quality of produce in the cold store
- PC23.** ensure the produce is packed in appropriate packing material, such as gunny bags and plastic mesh bags
- PC24.** ensure the use of appropriate accessories, such as pallets and crates for storing the produce in the cold store
- PC25.** maintain the recommended temperature and humidity in the cold store according to the type of produce being stored

Maintain the cold store infrastructure

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

- PC26.** check the cold store regularly to ensure its hygiene and instruct the housekeeping personnel to undertake cleaning as required
- PC27.** carry out appropriate documentation concerning the cold store inspections as per the organizational procedures
- PC28.** ensure the availability of appropriate cleaning products and accessories for the housekeeping personnel
- PC29.** follow the appropriate measures for optimum space utilization in the cold store
- PC30.** identify issues with the cold store tools, equipment and machinery and coordinate with the relevant personnel for their repair and maintenance
- PC31.** coordinate with the relevant authority in the cold store to resolve out-of-authority issues

Maintain and analyze the maintenance records

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

- PC32.** maintain the relevant records concerning the CA equipment and chamber maintenance activities
- PC33.** follow the maintenance schedule provided by the OEM to ensure optimum equipment performance
- PC34.** analyze and compare the maintenance records to identify recurring issues and take appropriate measures to minimize them

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the working principle of N₂, atmospheric gas generator machines, chillers, humidifiers, scrubbers, pressure gauges, temperature sensors, etc.
- KU2.** the functioning of different machine parts, such as fan blades, V-belts, bearings, filters, etc.
- KU3.** the specifications and functioning of gas analyzers
- KU4.** the benefits and functioning of different automation and electromechanical equipment
- KU5.** the working principle of PLC and automation control system
- KU6.** how to carry out repair and maintenance of the CA equipment and CA chamber
- KU7.** the appropriate safety measures to be taken while carrying out repair and maintenance of the CA equipment and chamber
- KU8.** the appropriate temperature and humidity required for storing different types of agricultural and horticultural produce
- KU9.** different kinds of produce and their shelf life and perishability
- KU10.** the common issues experienced with agricultural and horticultural produce in a cold store and how to deal with them
- KU11.** the importance of inspecting the produce in the cold store regularly to ensure its quality
- KU12.** the importance and process of labelling/ tagging the produce in the cold store
- KU13.** the importance of storing different types of produce separately
- KU14.** the recommended practices to be followed to protect the produce from damage and contamination in the cold store
- KU15.** the applicable food safety standards
- KU16.** the appropriate packing material to be used to pack different types of produce
- KU17.** the importance of using the appropriate accessories, such as pallets and crates for storing the produce in the cold store
- KU18.** the importance of maintaining hygiene in the cold store
- KU19.** the applicable documentation requirements
- KU20.** the recommended practices to be followed for optimum space utilization in the cold store
- KU21.** the repair and maintenance needs of the cold store tools, equipment and machinery
- KU22.** how to maintain records manually and electronically
- KU23.** the importance of maintaining and analyzing the maintenance records

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.** listen attentively to understand the information being shared
- GS4.** read the relevant literature
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** take quick decisions to deal with workplace emergencies

- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** coordinate with the co-workers and stakeholders to achieve the work objectives

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check and maintain the CA equipment</i>	5	9	-	5
PC1. check the N2 and atmospheric air generator filters for the correct functioning	-	-	-	-
PC2. examine the oil levels of generators/ compressors to ensure they are as recommended	-	-	-	-
PC3. ensure the belts of the air handling units have the recommended tension levels	-	-	-	-
PC4. check the scrubber, ventilation systems and humidifiers for the appropriate functioning and carry out troubleshooting as required	-	-	-	-
PC5. check the gas pressure indicator, ethylene, CO2 and O2 concentration indicators, and temperature and humidity sensors for the correct functioning	-	-	-	-
PC6. carry out the regular repair and maintenance of various CA chamber equipment	-	-	-	-
PC7. use the appropriate components and maintenance tools and equipment as recommended by the OEM	-	-	-	-
<i>Check and maintain the CA chamber</i>	5	6	-	5
PC8. examine the ventilation system of the CA chamber for appropriate functioning and carry out troubleshooting as required	-	-	-	-
PC9. ensure the CA chamber seals are intact and there are no gas leakages	-	-	-	-
PC10. identify leakages from the CA chamber and plug them promptly	-	-	-	-
PC11. check the CA chamber door gaskets for the signs of wear and tear or damage, and replace them as required	-	-	-	-
PC12. identify aberrations/ fluctuations in the gas pressure and RH levels, and undertake appropriate remedial measures	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check the standby power source and safety measures</i>	5	5	-	5
PC13. check the standby power source to ensure it is working appropriately	-	-	-	-
PC14. check the water level of safety relief valves to ensure it is as recommended	-	-	-	-
PC15. check the pressure relief valves for the signs of wear and tear or damage, and replace them as required	-	-	-	-
PC16. check the refrigeration load, pull down period, holding period and power consumption to ensure they are as recommended	-	-	-	-
<i>Maintain the cold store stock</i>	5	8	-	5
PC17. check the stock stored in the cold store regularly to ensure its quality is maintained	-	-	-	-
PC18. identify issues with the stock, e.g. deterioration of produce and take appropriate remedial measures	-	-	-	-
PC19. check the stock to ensure appropriate labelling/ tagging	-	-	-	-
PC20. ensure storage of different types of produce separately to avoid mixing of stock and facilitate easy stock retrieval	-	-	-	-
PC21. follow the recommended practices to protect the produce from damage and contamination in the cold store	-	-	-	-
PC22. follow the organizational policy and applicable food safety standards to maintain the quality of produce in the cold store	-	-	-	-
PC23. ensure the produce is packed in appropriate packing material, such as gunny bags and plastic mesh bags	-	-	-	-
PC24. ensure the use of appropriate accessories, such as pallets and crates for storing the produce in the cold store	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. maintain the recommended temperature and humidity in the cold store according to the type of produce being stored	-	-	-	-
<i>Maintain the cold store infrastructure</i>	5	7	-	5
PC26. check the cold store regularly to ensure its hygiene and instruct the housekeeping personnel to undertake cleaning as required	-	-	-	-
PC27. carry out appropriate documentation concerning the cold store inspections as per the organizational procedures	-	-	-	-
PC28. ensure the availability of appropriate cleaning products and accessories for the housekeeping personnel	-	-	-	-
PC29. follow the appropriate measures for optimum space utilization in the cold store	-	-	-	-
PC30. identify issues with the cold store tools, equipment and machinery and coordinate with the relevant personnel for their repair and maintenance	-	-	-	-
PC31. coordinate with the relevant authority in the cold store to resolve out-of-authority issues	-	-	-	-
<i>Maintain and analyze the maintenance records</i>	5	5	-	5
PC32. maintain the relevant records concerning the CA equipment and chamber maintenance activities	-	-	-	-
PC33. follow the maintenance schedule provided by the OEM to ensure optimum equipment performance	-	-	-	-
PC34. analyze and compare the maintenance records to identify recurring issues and take appropriate measures to minimize them	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7534
NOS Name	Maintain the CA equipment, chamber, cold store stock and infrastructure
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-harvest Supply Chain Management
NSQF Level	5
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N7535: Follow appropriate safety measures during the CA equipment operation

Description

This OS unit is about following appropriate safety measures during the CA equipment operation.

Scope

The scope covers the following :

- Follow CA equipment safety measures
- Undertake safety measures before sealing the CA chamber
- Follow safety measures in the CA chamber
- Follow general safety measures

Elements and Performance Criteria

Follow CA equipment safety measures

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

- PC1.** ensure MCBs with the recommended current ratings are installed for various CA chamber equipment
- PC2.** check the pressure relief for different gas generator machines
- PC3.** ensure the availability of the dry ice cylinder for the relevant CA chamber equipment
- PC4.** follow the applicable Bureau of Indian Standards (BIS) electrical and mechanical safety standards

Undertake safety measures before sealing the CA chamber

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

- PC5.** install removable access latch in the gas-tight door
- PC6.** ensure the availability of self-containing breathing equipment
- PC7.** follow the recommended safety measures, e.g. placing a danger sign on each gas-tight door
- PC8.** check the sealing door gaskets for wear and tear or damage
- PC9.** repair or replace the sealing door gaskets or coordinate with the relevant authority/personnel to resolve complex issues

Follow safety measures in the CA chamber

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

- PC10.** maintain the recommended O₂ and CO₂ levels in the oxygen level in the CA chamber
- PC11.** ensure the proper functioning of the emergency door opener
- PC12.** check that the precaution alarm is active for ethylene gas excess in the CA chamber
- PC13.** follow the recommended safety measures and use the relevant Personal Protection Equipment (PPE) while working in the CA chamber and ensure workers also do the same
- PC14.** perform appropriate tests on the refrigerant leak detection system to ensure effective monitoring and control of leakages in the CA chamber

Follow general safety measures

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

- PC15.** ensure the general safety alarm is working appropriately
- PC16.** check and ensure the availability of the first aid box and fire fighting equipment in the CA chamber
- PC17.** check the emergency lighting for correct functioning and repair or replace them as required

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the appropriate CA equipment safety measures to be taken
- KU2.** the appropriate safety measures to be taken in the CA chamber
- KU3.** the applicable general safety measures
- KU4.** the safety mechanisms available in the CA equipment and how to use them
- KU5.** the importance of employing safety mechanisms during CA store operations
- KU6.** how to operate the relevant safety equipment
- KU7.** the recommended measures to be taken to achieve machine efficiency and avoid overloading
- KU8.** how to deal with hazardous gas levels in a CA chamber
- KU9.** different types of alarms that alert about different issues, such as fire, gas leakage, etc.
- KU10.** the importance of ensuring the availability of first aid box and relevant PPE in the CA store

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the information being shared
- GS4.** communicate politely and professionally
- 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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow CA equipment safety measures</i>	7	10	-	7
PC1. ensure MCBs with the recommended current ratings are installed for various CA chamber equipment	-	-	-	-
PC2. check the pressure relief for different gas generator machines	-	-	-	-
PC3. ensure the availability of the dry ice cylinder for the relevant CA chamber equipment	-	-	-	-
PC4. follow the applicable Bureau of Indian Standards (BIS) electrical and mechanical safety standards	-	-	-	-
<i>Undertake safety measures before sealing the CA chamber</i>	8	10	-	8
PC5. install removable access latch in the gas-tight door	-	-	-	-
PC6. ensure the availability of self-containing breathing equipment	-	-	-	-
PC7. follow the recommended safety measures, e.g. placing a danger sign on each gas-tight door	-	-	-	-
PC8. check the sealing door gaskets for wear and tear or damage	-	-	-	-
PC9. repair or replace the sealing door gaskets or coordinate with the relevant authority/ personnel to resolve complex issues	-	-	-	-
<i>Follow safety measures in the CA chamber</i>	8	10	-	8
PC10. maintain the recommended O ₂ and CO ₂ levels in the oxygen level in the CA chamber	-	-	-	-
PC11. ensure the proper functioning of the emergency door opener	-	-	-	-
PC12. check that the precaution alarm is active for ethylene gas excess in the CA chamber	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. follow the recommended safety measures and use the relevant Personal Protection Equipment (PPE) while working in the CA chamber and ensure workers also do the same	-	-	-	-
PC14. perform appropriate tests on the refrigerant leak detection system to ensure effective monitoring and control of leakages in the CA chamber	-	-	-	-
<i>Follow general safety measures</i>	7	10	-	7
PC15. ensure the general safety alarm is working appropriately	-	-	-	-
PC16. check and ensure the availability of the first aid box and fire fighting equipment in the CA chamber	-	-	-	-
PC17. check the emergency lighting for correct functioning and repair or replace them as required	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7535
NOS Name	Follow appropriate safety measures during the CA equipment operation
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-harvest Supply Chain Management
NSQF Level	5
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N7530: Maintain the cold store stock and infrastructure

Description

This OS unit is about coordinating the maintenance activities in a CA store which includes coordinating with CA store workers and the procurement of CA store equipment.

Scope

The scope covers the following :

- Coordinate with the CA store workers
- Coordinate the procurement of CA store equipment

Elements and Performance Criteria

Coordinate with the CA store workers

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

- PC1.** guide the CA store workers with respect to the maintenance of produce and equipment
- PC2.** explain the use of appropriate tools and equipment required for maintenance activities, conducting appropriate demonstrations
- PC3.** ensure the CA store workers understand the importance of maintaining the optimum conditions for the maximum shelf life of produce
- PC4.** ensure the CA store workers are aware of the applicable procedures and quality standards
- PC5.** oversee the CA store workers to ensure they follow the applicable procedures and maintain the quality standards, e.g. appropriate storage and handling of produce
- PC6.** identify the instances of lapse in maintenance activities and take appropriate corrective measures promptly

Coordinate the procurement of CA store equipment

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

- PC7.** identify the requirement of replacing or upgrading the CA store equipment to ensure efficient CA store operations and optimum quality of produce
- PC8.** coordinate with the relevant personnel to make appropriate recommendations concerning the replacement or upgrade of CA store equipment
- PC9.** assist in the procurement of new equipment from the relevant vendors
- PC10.** assist in maintaining appropriate documentation and records concerning procurements, e.g. purchase and equipment warranty-related

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of guiding the CA store workers with respect to the maintenance of produce and equipment
- KU2.** the use of appropriate tools and equipment required for maintenance activities
- KU3.** the applicable standard procedures and quality standards

- KU4.** the importance and process of overseeing the CA store workers
- KU5.** the common quality-related issues encountered in a CA store and the appropriate corrective measures to be taken
- KU6.** the importance of replacing or upgrading the CA store equipment after determining the requirement
- KU7.** coordinate with the relevant personnel to make appropriate recommendations concerning the replacement or upgrade of CA store equipment
- KU8.** the process of procuring CA store equipment the relevant records to be maintained

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the instructions being given
- GS4.** communicate politely and professionally
- GS5.** coordinate with the co-workers to achieve the work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** use time and resources efficiently
- GS8.** take quick decisions to deal with any emergencies/ accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Coordinate with the CA store workers</i>	17	21	-	17
PC1. guide the CA store workers with respect to the maintenance of produce and equipment	-	-	-	-
PC2. explain the use of appropriate tools and equipment required for maintenance activities, conducting appropriate demonstrations	-	-	-	-
PC3. ensure the CA store workers understand the importance of maintaining the optimum conditions for the maximum shelf life of produce	-	-	-	-
PC4. ensure the CA store workers are aware of the applicable procedures and quality standards	-	-	-	-
PC5. oversee the CA store workers to ensure they follow the applicable procedures and maintain the quality standards, e.g. appropriate storage and handling of produce	-	-	-	-
PC6. identify the instances of lapse in maintenance activities and take appropriate corrective measures promptly	-	-	-	-
<i>Coordinate the procurement of CA store equipment</i>	13	19	-	13
PC7. identify the requirement of replacing or upgrading the CA store equipment to ensure efficient CA store operations and optimum quality of produce	-	-	-	-
PC8. coordinate with the relevant personnel to make appropriate recommendations concerning the replacement or upgrade of CA store equipment	-	-	-	-
PC9. assist in the procurement of new equipment from the relevant vendors	-	-	-	-
PC10. assist in maintaining appropriate documentation and records concerning procurements, e.g. purchase and equipment warranty-related	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7530
NOS Name	Maintain the cold store stock and infrastructure
Sector	Agriculture
Sub-Sector	Agriculture Industries
Occupation	Post-harvest Supply Chain Management
NSQF Level	5
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

AGR/N9903: Maintain health and safety at the workplace

Description

This OS is about maintaining health and safety of self and other co-workers at the workplace

Scope

The scope covers the following :

- Maintain personal hygiene
- Maintain clean and safe workplace
- Administer appropriate emergency procedures

Elements and Performance Criteria

Maintain personal hygiene

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

- PC1.** wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals
- PC2.** wash the worn clothes with soap and sun dry before use next time
- PC3.** ensure the face is covered with mask or three layers of cloth-piece
- PC4.** follow the workplace sanitization norms including distancing from sick people

Maintain clean and safe workplace

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

- PC5.** carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor
- PC6.** wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy
- PC7.** follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards
- PC8.** assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices
- PC9.** sanitize equipment, tools and machinery before and after use
- PC10.** use equipment and materials safely and correctly and return the same to designated storage after use
- PC11.** dispose waste safely and correctly in the designated area
- PC12.** recognize risks to bystanders and take required action to reduce the risks
- PC13.** work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed
- PC14.** report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger
- PC15.** follow government / workplace advisories incase of outbreak of any disease/disaster

Administer appropriate emergency procedures

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

- PC16.** follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements
- PC17.** use emergency equipment in accordance with manufacturer's specifications and workplace requirements
- PC18.** provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques
- PC19.** recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- PC20.** report details of first aid administered in accordance with workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** personal hygiene and fitness requirement
- KU7.** importance of sanitization of the workplace
- KU8.** types of Personal Protective Equipment (PPE) required at the workplace and their importance
- KU9.** the correct and safe way to use materials and equipment required for the work
- KU10.** the importance of good housekeeping at the workplace
- KU11.** safe waste disposal methods
- KU12.** methods for minimizing environmental damage during work
- KU13.** the risks to health and safety including contagious diseases and the measures to be taken to control those risks in the area of work
- KU14.** workplace procedures and requirements for the prevention and treatment of workplace injuries/illnesses.
- KU15.** basic emergency first aid procedure
- KU16.** local emergency services
- KU17.** why accidents, incidents and problems should be reported and the appropriate actions to be taken

Generic Skills (GS)

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

- GS1.** record the data as per the requirement
- GS2.** report problems to the appropriate personnel in a timely manner
- GS3.** read instruction manual for hand tool and equipments

- GS4.** communicate clearly and effectively with co-workers, and other stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to personal hygiene and safety
- GS7.** schedule daily activities and draw up priorities
- GS8.** manage relationships with co-workers, manager and other stakeholders
- GS9.** assess situation and identify appropriate control measures

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain personal hygiene</i>	10	5	-	10
PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals	-	-	-	-
PC2. wash the worn clothes with soap and sun dry before use next time	-	-	-	-
PC3. ensure the face is covered with mask or three layers of cloth-piece	-	-	-	-
PC4. follow the workplace sanitization norms including distancing from sick people	-	-	-	-
<i>Maintain clean and safe workplace</i>	15	15	-	15
PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor	-	-	-	-
PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy	-	-	-	-
PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards	-	-	-	-
PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices	-	-	-	-
PC9. sanitize equipment, tools and machinery before and after use	-	-	-	-
PC10. use equipment and materials safely and correctly and return the same to designated storage after use	-	-	-	-
PC11. dispose waste safely and correctly in the designated area	-	-	-	-
PC12. recognize risks to bystanders and take required action to reduce the risks	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed	-	-	-	-
PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger	-	-	-	-
PC15. follow government / workplace advisories incase of outbreak of any disease/disaster	-	-	-	-
<i>Administer appropriate emergency procedures</i>	15	5	-	10
PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements	-	-	-	-
PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements	-	-	-	-
PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques	-	-	-	-
PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	-	-	-	-
PC20. report details of first aid administered in accordance with workplace procedures	-	-	-	-
NOS Total	40	25	-	35

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

DGT/VSQ/N0103: Employability Skills (90 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.** understand the significance of employability skills in meeting the current job market requirement and future of work
- PC2.** identify and explore learning and employability relevant portals
- PC3.** research about the different industries, job market trends, latest skills required and the available opportunities

Constitutional values - Citizenship

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

- PC4.** 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.
- PC5.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

- PC6.** recognize the significance of 21st Century Skills for employment
- PC7.** 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

PC8. adopt a continuous learning mindset for personal and professional development

Basic English Skills

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

PC9. use basic English for everyday conversation in different contexts, in person and over the telephone

PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC11. 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:

PC12. identify career goals based on the skills, interests, knowledge, and personal attributes

PC13. prepare a career development plan with short- and long-term goals

Communication Skills

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

PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings

PC15. use active listening techniques for effective communication

PC16. communicate in writing using appropriate style and format based on formal or informal requirements

PC17. work collaboratively with others in a team

Diversity & Inclusion

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

PC18. communicate and behave appropriately with all genders and PwD

PC19. 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:

PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.

PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook

PC22. identify common components of salary and compute income, expenses, taxes, investments etc

PC23. 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:

PC24. operate digital devices and use their features and applications securely and safely

PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.

PC26. display responsible online behaviour while using various social media platforms

PC27. create a personal email account, send and process received messages as per requirement

PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications

PC29. utilize virtual collaboration tools to work effectively

Entrepreneurship

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

- PC30.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC31.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC32.** 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:

- PC33.** identify different types of customers and ways to communicate with them
- PC34.** identify and respond to customer requests and needs in a professional manner
- PC35.** use appropriate tools to collect customer feedback
- PC36.** follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

- PC37.** create a professional Curriculum vitae (Résumé)
- PC38.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- PC39.** apply to identified job openings using offline /online methods as per requirement
- PC40.** answer questions politely, with clarity and confidence, during recruitment and selection
- PC41.** 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.** components of salary and 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

- KU16.** use applications such as word processors, spreadsheets etc.
- KU17.** how to identify business opportunities
- KU18.** types and needs of customers
- KU19.** how to apply for a job and prepare for an interview
- KU20.** 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 in English and other languages
- GS2.** communicate effectively using appropriate language in formal and informal settings
- GS3.** behave politely and appropriately with all to maintain effective work relationship
- GS4.** how to work in a virtual mode, using various technological platforms
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC4. 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.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC6. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC7. 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	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
<i>Basic English Skills</i>	3	4	-	-
PC9. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC11. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
PC15. use active listening techniques for effective communication	-	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	5	-	-
PC24. operate digital devices and use their features and applications securely and safely	-	-	-	-
PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
PC26. display responsible online behaviour while using various social media platforms	-	-	-	-
PC27. create a personal email account, send and process received messages as per requirement	-	-	-	-
PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
PC29. utilize virtual collaboration tools to work effectively	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-
PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC33. identify different types of customers and ways to communicate with them	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC35. use appropriate tools to collect customer feedback	-	-	-	-
PC36. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC37. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training 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 these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 70

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N7529.Coordinate the incoming and outgoing stock	30	40	0	30	100	15
AGR/N7532.Prepare the CA equipment for operation	30	40	0	30	100	15
AGR/N7533.Operate the CA equipment	30	40	0	30	100	15
AGR/N7534.Maintain the CA equipment, chamber, cold store stock and infrastructure	30	40	0	30	100	15
AGR/N7535.Follow appropriate safety measures during the CA equipment operation	30	40	0	30	100	10
AGR/N7530.Maintain the cold store stock and infrastructure	30	40	0	30	100	10
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	10
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	10
Total	240	295	0	215	750	100

Acronyms

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

Glossary

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

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