

NSQF QUALIFICATION FILE

approved in the 28th NSQC Meeting – NCVET – 29th March 2023

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Agriculture Skill Council of India (ASCI)

6th floor, GNG Building, Plot No – 10, Sector- 44, Gurugram,
Haryana – 122004

Qualification Code

QG-05-AG-00346-2023-V1-ASCI

Name and contact details of individual dealing with the submission

Name: Ms Priyanka Prakash

Position in the organisation: Senior Manager – Standards & QA

Address, if different from above

Tel number(s): 0124 – 4670029/ 4814673/ 4814659

E-mail address: priyanka@asci-india.com

List of documents submitted in support of the Qualifications File

1. Qualifications Pack – Annexure 1
2. Model Curriculum – Annexure 2
3. Industry Validations- Annexure 3

Model Curriculum to be added which will include the following:

- Indicative list of tools/equipment to conduct the training
- Trainers qualification
- Lesson Plan
- Distribution of training duration into theory/practical/OJT component

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SUMMARY

1	Qualification Title	Controlled Atmosphere (CA) Store Technician
2	Qualification Code, if any	AGR/Q7508, v2.0
3	NCO code and occupation	NCO-2015/7127, Post-Harvest Supply Chain Management
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	<p>Nature of the qualification- a Qualification Pack (QP)</p> <p>The individual will be responsible for 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.</p>
5	Body/bodies which will award the qualification	Agriculture Skill Council of India (ASCI)
6	Body which will accredit providers to offer courses leading to the qualification	Agriculture Skill Council of India (ASCI)
7	Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)	Yes (Annexure 3)
8	Occupation(s) to which the qualification gives access	Post-Harvest Supply Chain Management
9	Job description of the occupation	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.
10	Licensing requirements	NA
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	NA
12	Level of the qualification in the NSQF	Level 5
13	Anticipated volume of training/learning required to complete the qualification	<p>Total Duration: 510 Hours</p> <p>Compulsory Modules: 390 Hours (Theory: 150 Hours, Practical: 150 Hours, ES: 90)</p>

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		Hours) OJT: 120 Hours
14	Indicative list of training tools required to deliver this qualification	Attached herewith
15	Entry requirements and/or recommendations and minimum age	Completed 2nd year of UG OR Pursuing 2nd year of UG and continuous education OR Completed 2nd year of 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 relevant experience OR 12th grade pass with 2 years of relevant experience OR 10th grade pass with 4 years of relevant experience OR Previous relevant qualification of NSQF Level 4 and with minimum education as 8th grade pass with 3 years of relevant experience OR Previous relevant qualification of NSQF Level 4.5 with 1.5 years of relevant experience 23 Years
16	Progression from the qualification (Please show Professional and academic progression)	Traceability Officer (NSQF Level -6)
17	Arrangements for the Recognition of Prior learning (RPL)	RPL assessment will be as per normal ASCI assessment process. (ASCI recognizes that there may be candidates who have prior learning experience in the Agriculture Sector and are desirous of being certified. Such candidates can apply to ASCI for testing and certification of their skills. Training

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		Partners will be responsible for identifying and counselling candidates for RPL through mobilization camps and advertisements. The details of the RPL process have been defined by ASCI under the document- Guidelines for Recognition of Prior Learning under PMKVY).		
18	International comparability where known (research evidence to be provided)	Not done as yet		
19	Date of planned review of the qualification.	3 years post NSQC Approval		
20	Formal structure of the qualification Mandatory components			
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours)		Leve I
		Theory	Practical	
(i)	Introduction (Bridge Module)	05	00	
(ii)	AGR/N7529: Coordinate the incoming and outgoing stock	20	35	5
(iii)	AGR/N7532: Prepare the CA equipment for operation	15	15	5
(iv)	AGR/N7533: Operate the CA equipment	45	15	5
(v)	AGR/N7534: Maintain the CA equipment, chamber, cold store stock and infrastructure	30	30	5
(vi)	AGR/N7535: Follow appropriate safety measures during the CA equipment operation	15	15	5
(vii)	AGR/N7530: Maintain the cold store stock and infrastructure	15	15	5
(viii)	AGR/N9903: Maintain health and safety at the workplace	05	25	4
(ix)	DGT/VSQ/N0103: Employability Skills (90 Hours)	90	00	5
	Total	240	150	
OJT: 120 Hours				

SECTION 1
ASSESSMENT

21	Body/Bodies which will carry out assessment: ASCI affiliated assessment bodies. <ol style="list-style-type: none">1. SHL India (Pvt.) Ltd2. Trendsetters Skill Assessors Pvt Ltd3. Mercer-Mettl4. SP Institute of Workforce Development (SPIWD)5. MSAG SI LLP More Assessment Agencies are being empanelled to cover wider geographical area
22	How will RPL assessment be managed and who will carry it out? RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack and will be carried out as per normal ASCI assessment process. The Training Partner or any other authority as prescribed by the Steering Committee will identify and counsel candidates eligible for RPL through mobilization camps and advertisements. The mobilized candidates can be counselled, oriented about the standardized NSQF framework and basis their existing competency will be mapped against the suitable level of the concerned Job role for assessments. The candidates enrolled will be assessed by the Assessment Agency affiliated with the Sector Skill Council on the basis of assessment criteria decided by Sector Skill Council (SSC). The candidate will need to pass in the minimum assessment criteria of a particular QP decided by the SSC. Successfully assessed candidates with a valid Aadhaar or alternate ID (as per process) will be eligible for QP-NOS based Certification.
23	Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF. A robust technology enabled assessment methodology has been designed keeping in mind the geographical/Physical constraints and target segment which assess a trainee's knowledge and skill set through three methods: <ol style="list-style-type: none">a. An offline Tablet based test through the use of Multiple Choice Text and Picture based questions in vernacular languagesb. Actual demonstration on the fieldc. Viva ASCI's assessment strategy: <ul style="list-style-type: none">● Question sets are developed as per the weightage of each NOS of the Qualification Pack.

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	<ul style="list-style-type: none">• Assessment criteria for each Qualification Pack developed, in which each Performance criteria (PC) assigned marks based on NOS• Question Bank is developed to assess the theoretical and practical knowledge. To ensure the quality, each trainees get different set of question• Empanelment of subject matter expert as assessor primarily from the Industry to assess trainee specifically on practical skills as per Industry demands <p>Assessments are preferably conducted on tablets or pen or papers in regional languages according to the requirement.</p>
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Please attach most relevant and recent documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – i.e. Learning Outcomes to be assessed, assessment criteria and the means of assessment.

24. Assessment evidences

Title of Component:

Outcomes to be assessed/ NOSs to be assessed	Assessment criteria for the outcome

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Means of assessment 1
Pass/Fail

NSQC Approved

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Job Role: Controlled Atmosphere (CA) Store Technician

Qualification Pack: AGR/Q7508, v2.0

Sector Skill Council: Agriculture Skill Council of India

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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.

In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
AGR/N7529: Coordinate the incoming and outgoing stock				
<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	-	-	-	-

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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	-	-	-	-
NOS Total	30	40	-	30
AGR/N7532: Prepare the CA equipment for operation				
<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				

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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				
<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
AGR/N7533: Operate the CA equipment				
<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	-	-	-	-

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

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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	-	-	-	-
<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	-	-	-	-

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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	-	-	-	-
<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

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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
AGR/N7535: Follow appropriate safety measures during the CA equipment operation				
<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 O2 and CO2 levels in the oxygen level in the CA chamber	-	-	-	-

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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	-	-	-	-
<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
AGR/N7530: Maintain the cold store stock and infrastructure				
<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	-	-	-	-

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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 documents	-	-	-	-
NOS Total	30	40	-	30
AGR/N9903: Maintain health and safety at the workplace				
<i>Maintain personal hygiene</i>	10	5	-	10
PC1. wash hands, legs and face with soap/alcohol-based sanitiser at reasonable intervals	-	-	-	-
PC2. wash the worn clothes with soap and sun-dry before use next time	-	-	-	-
PC3. ensure the face is covered with a mask or three layers of cloth-piece	-	-	-	-
PC4. follow the workplace sanitization norms including distancing from sick people	-	-	-	-
<i>Maintain a 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	-	-	-	-

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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 the required action to reduce the risks	-	-	-	-
PC13. work in a manner that minimises 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	-	-	-	-
PC15. follow government / workplace advisories in case 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 the emergency, as per the workplace requirements	-	-	-	-
PC17. use emergency equipment in accordance with the manufacturer's specifications and workplace requirements	-	-	-	-
PC18. report provided 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
DGT/VSQ/N0103: Employability Skills – NOS (90 hours)				
<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	-	-	-	-

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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, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn 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	-	-	-	-
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	-	-	-	-

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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	-	-	-	-
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 behavior 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	-	-

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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	-	-	-	-
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 opening 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	-	-

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SECTION 2

EVIDENCE OF LEVEL

OPTION B

Title/ Name of qualification/ component: Controlled Atmosphere (CA) Store Technician			Level: 5
NSQF Domain	NSQF Domain	NSQF Domain	NSQF Domain
Process	<ul style="list-style-type: none">• Process of preparing the CA equipment for operation• Process of operating the CA equipment• Process of maintaining the CA equipment and chamber• Process of following appropriate safety measures during the CA equipment operation• Process of maintaining health and safety at the workplace	A Controlled Atmosphere (CA) Store Technician is responsible for 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.	5
Professional knowledge	<ul style="list-style-type: none">• Knowledge of cold storage and their working• Understand the functions and operations of the CA equipment in the CA cold storage• Knowledge of components, controls and functions of CA equipment• Able to understand the appropriate adjustment to be made to the CA equipment according to the type of produce• Understand CA equipment power requirement, automation, safety devices and emergency systems	The job holder is expected to have knowledge of cold storage and their working, functions and operations of the CA equipment in the CA cold storage, components, controls and functions of CA equipment, Hazard Analysis Critical Control Point (HACCP) management system, functioning of different machine parts, different automation and electromechanical equipment, etc.	5

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	<ul style="list-style-type: none">• Able to understand the relevant material handling procedures• Knowledge of relevant CA equipment operating and maintenance procedures• Able to understand the safety measures to be taken while operating the CA equipment• Understand the Hazard Analysis Critical Control Point (HACCP) management system• Understand the benefits and methods of automation• Understand the importance of monitoring the equipment during the operation• Understand the ripening process for different types of produce• Able to understand the functioning of different machine parts, such as fan blades, V-belts, bearings, filters, etc.• Knowledge of different automation and electromechanical equipment• Knowledge of maintain records manually and electronically• Understand the appropriate CA equipment safety measures to be taken• Know how to deal with hazardous gas levels in a CA chamber		
Professional skill	<ul style="list-style-type: none">• Check the relevant equipment parameters to ensure they are set to the recommended values• Check the carbon dioxide, oxygen, nitrogen and other gas levels• Check the equipment temperature and	The job holder is expected to coordinate in checking the relevant equipment parameters, checking the gas levels, checking the equipment temperature, determining the ripeness of produce, checking the oil levels of generators, checking the ventilation system of the CA	5

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	<p>humidity levels</p> <ul style="list-style-type: none"> • Check and sort out the damaged and unsuitable produce • Determine the ripeness of produce • Check the pressure levels for different gases and Relative Humidity (RH) levels • Check the N2 and atmospheric air generator filters • Examine the oil levels of generators/ compressors • Examine the ventilation system of the CA chamber • Maintain the relevant records 	chamber	
Core Skills	<ul style="list-style-type: none"> • Preparing the CA equipment for operation by conducting regular checks and appropriate repairs • Repairing or replacing the absorber, valves, sensors, relief valves, analyzers, and safety monitors • Operating the CA equipment in the CA store as per the applicable procedure • Operating the CA equipment in a safe and controlled manner • Undertaking periodic repair and maintenance of the CA equipment and chamber • Following appropriate safety measures during the CA equipment operation. • Maintaining the health and safety of self and co-workers at the workplace 	The job holder is expected to preparing the CA equipment for operation by conducting regular checks and appropriate repairs, operating the CA equipment in the CA store as per the applicable procedure, undertaking periodic repair and maintenance of the CA equipment and chamber, following appropriate safety measures during the CA equipment operation, maintaining the health and safety of self and co-workers at the workplace	5

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Responsibility	<ul style="list-style-type: none">• Responsible for performing regular checks on the CA equipment• Responsible to Follow checklists and maintain records• Responsible for checking the produce• Responsible for operating the CA equipment• Responsible for checking and maintaining the CA equipment• Responsible for checking and maintaining the CA chamber• Responsible for checking the standby power source and safety measures• Responsible for maintaining and analyzing the maintenance records• Responsible for following CA equipment safety measures• Responsible for following safety measures in the CA chamber• Responsible for following general safety measures	A Controlled Atmosphere (CA) Store Technician is responsible for 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	5
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SECTION 3**EVIDENCE OF NEED**

26	What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?
Basis	
Need of the qualification	<p>While collecting data from the companies for the occupational map, we also took feedback from industry, training institutions which was collected with respect to roles for which qualification packs development, was to be prioritized. This was largely based on volume of people required, quantitative and qualitative shortfall which the industry feels they face. Governing council of ASCI and Occupational Standards Committee which comprises of experts & senior leaders gave final approval and endorsement for the same.</p> <p>Supply chain loss in the post-harvest management of agri produce is one of the major determinants of the food problem in India. However, food wastage is not good for two main reasons: firstly, there may be a material loss in terms of energy protein and other nutrients; and secondly, there may be an economic loss in terms of the value of food. The major concern for fresh Agro Supply Chain Management is the post-harvest wastage. India, the world's second-largest fresh agro producer and one of the centers of origin of fresh agro produce, is also one of the biggest food wasters in the world—wasting lots of fresh agro produce (fruits and vegetables) every year. The challenge of feeding India's billion plus people is not really about agriculture and food production but getting the good quality food to the people at the right time. According to various studies and literature available, the most susceptible food category to a lack of cold storage is fruits and vegetables where annual wastage is very high. Controlling the levels of waste is beyond the capability of individual farmers or consumers. The problem is wider and involves various issues in the supply chain of fresh agro produce. The supply chain losses and wastage problems encountered in the agricultural products with special reference to perishable agro produce, i.e., fruits and vegetables.</p>
Industry Relevance	Validations have been received from Asirbadh Hospitality Private Limited, Shriram Bioseed Genetics, Empower Pragati, Sumitomo Chemical India Limited, ANS Tempcontrol Engineers Private Limited
Usage of the qualification	An NSQF aligned training to the persons involved in grooming of Controlled Atmosphere (CA) Store Technician shall provide opportunities to the incumbents for horizontal and vertical career progression. Competency-based training shall imbibe professionalism in the job-role. Being an important and ever-expanding job, the job-role of Controlled Atmosphere (CA) Store

	<p>Technician may well be included in the vocational education stream of school education.</p> <p>An industry-determined specification of performance, sets out the skills, knowledge and attitudes required to operate effectively in employment.</p> <p>For employers, the Controlled Atmosphere (CA) Store Technician Qualification standards offer:</p> <ul style="list-style-type: none">• a means of assessing occupational competence objectively, including knowledge and understanding of the subject• a guide for job descriptions and recruitment requirements• a basis for staff appraisals• a systematic approach to analyzing training needs• an opportunity to improve overall company performance by developing a better-trained, better-equipped and more effective workforce. <p>To employees and freelancers, the Controlled Atmosphere (CA) Store Technician Qualification standards provide:</p> <ul style="list-style-type: none">• a means for recognizing ability• a means for determining gaps in knowledge, experience and skills• an objective process for identifying training needs• performance indicators and a guide to effectiveness and efficiency. <p>One of the most valuable uses of the occupational standards is in the assessment of a person's performance within a particular job. Because the standards are based on the industry's requirements for ability, skills and knowledge, they provide an objective and directly relevant measure for employers and employees a like.</p>								
	<p>The Qualification Pack shall also be helpful in conducting Recognition of Prior Learning of the Controlled Atmosphere (CA) Store Technician</p>								
Estimated uptake	<table><tr><th>QP/Job Role Name</th><th>"States where Demand exist</th><th>"District where Demand exist</th><th>Projections for the next 3 years</th></tr><tr><td>Controlled Atmosphere (CA) Store Technician</td><td>PAN INDIA</td><td>Various Districts</td><td>3000</td></tr></table>	QP/Job Role Name	"States where Demand exist	"District where Demand exist	Projections for the next 3 years	Controlled Atmosphere (CA) Store Technician	PAN INDIA	Various Districts	3000
QP/Job Role Name	"States where Demand exist	"District where Demand exist	Projections for the next 3 years						
Controlled Atmosphere (CA) Store Technician	PAN INDIA	Various Districts	3000						

NSQF QUALIFICATION FILE

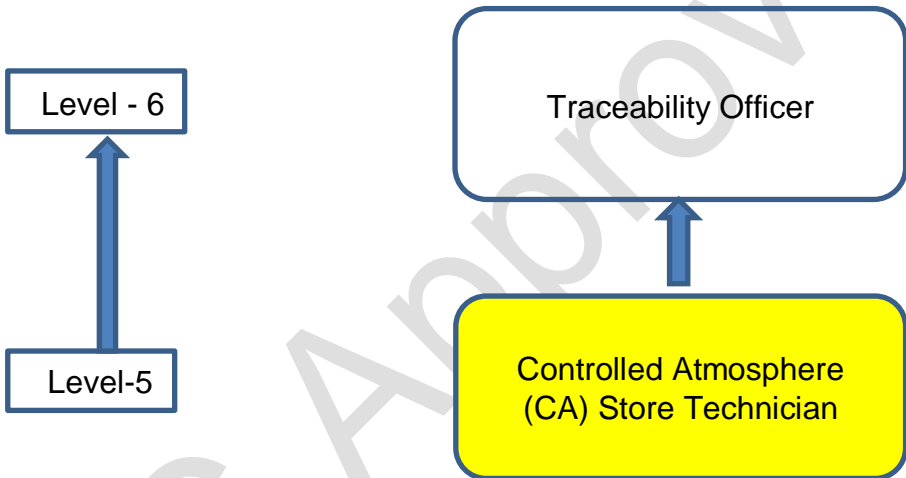
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27	Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences In-process
28	What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification This is the revised version of the already NSQC-approved QP of CA Store Technician (NQR- 2019/AGR/ASCI/3256). The revision has been undertaken as the QP is going to expire soon.
29	What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here Any institution or individual is welcome to send the feedback, which is recorded and considered during next review cycle. Communication will be sent for any feedback to all the main stakeholders/users one month prior to the review of the qualifications pack. A formal review is scheduled in three years.

Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information

SECTION 4**EVIDENCE OF PROGRESSION**

30	<p>What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector? <i>Show the career map here to reflect the clear progression</i></p> <p>Career path in the agriculture sector is generally in terms of activities done & ownership of responsibility because they are primarily self-wage employment/ entrepreneurship roles.</p> <p>Annexure 1: Career Map of Controlled Atmosphere (CA) Store Technician</p>  <pre>graph BT; L5[Level-5] --> L6[Level - 6]; L6 --> TO[Traceability Officer]; TO --> CAT[Controlled Atmosphere (CA) Store Technician];</pre> <p>The diagram illustrates a career progression path. On the left, a vertical blue arrow points upwards from a box labeled 'Level-5' to a box labeled 'Level - 6'. To the right of this, another vertical blue arrow points upwards from a yellow box labeled 'Controlled Atmosphere (CA) Store Technician' to a white box labeled 'Traceability Officer'.</p>
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Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.