



National Competency Standards Level-5
For
“Tunnel Farming, Green House & Agribusiness”
(Off-season Vegetable production & Agribusiness)





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NAVTTC team under the supervision of Dr. Faheem Khan, Executive Director, NAVTTC, initiated development of CBT & A based qualifications for 200 traditional / hi-tech trades under the Prime Minister “skill for all” Program.

Nobody has been more important in the pursuit of this project than Dr. Faheem Khan, Executive Director, NAVTTC, whose patronage and support remained there throughout the development process. Special thanks to Syed Javed Hassan Chairman NAVTTC who made it happened in this challenging time.



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1. Introduction

Agriculture is considered as the backbone of Pakistan's economy, which accounts for about 18.9% of Pakistan's GDP and employs about 42.3% of the labor force. Where agriculture is considered as the largest sector that supports GDP, horticulture sector (fruit and vegetables) contributes only 11 % to the total value addition. Pakistan exports vegetables to Afghanistan, Malaysia, Russia, Bahrain, UAE and Sri Lanka but not impressive figures. Despite favorable climatic and cropping condition Pakistan has repeatedly seen shortages of different vegetables like onions or tomatoes in the market that caused price rise and difficulty for many people. More than 35 varieties of vegetables are growing in different climatic zones in different provinces of Pakistan. Many Surveys reports different reasons for low production of vegetables in Pakistan. The government in history executed various projects to urge the farmer community for cultivation of vegetables but due to lack of technical skills and limited resources, farmers have not adopted this sector in a very impressive way.

Vegetable production can be heightening by improving cultivation techniques and enhancing profitability for farmers. Off-season vegetable production is also an important technique to enhance profits and meet market demand. Production of vegetables out of normal season through different techniques is called “off-season vegetable”. Growing Off-season vegetables not only provides fresh vegetables to the daily dietary meal of the consumers but also helps farmers to get abnormal profit as supply in the off-season is always lower than that of its demand.

Therefore, the importance of knowledge related to off-season vegetable production through the latest techniques makes this diploma very valuable not only in agriculture but also in its usefulness in all areas of our daily life. Market demands for qualified workers are therefore a need for time and can only be addressed by developing specific skills standards in partnership with all stakeholders and industry experts. Recognizing this fact, the National Vocational and Technical Training Commission (NAVTTC) has developed the National Vocational Qualifications Framework (NVQF) for tunnel farming, Greenhouse and agri. Business (off season vegetable production) qualifications. These competency standards have been developed by the Qualification Development Committee (QDC) and validated by the Qualification Validation Committee (QVC) with representation from the country's leading departments (IAGS, PU Lahore, UVAS, UAF, PCSIR and ARI KPK).



2. Purpose of the Qualification

The aim of this qualification is to set high and applicable professional standards for all stake holders in agriculture sector. The basic goals of establishing these credentials are as follows:

1. Equip with the latest off-season vegetable production techniques
2. Improve trainees' professional competence
3. Provide opportunities for recognition of non-formal or informal skills
4. Raise standard and efficacy of scientific training and assessment
5. Improve crop production through the best management skills
6. Enable the existing workforce to learn new technologies and methods
7. Producing a skilled workforce for off-season vegetable production



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3. Levelling of Core Competencies of the Qualification

Code	Competency Standard	Category	Level	Credit
CS53	Select suitable site for crop production	Technical	5	4
CS54	Prepare layout plan for sowing	Technical	5	2
CS55	Perform soil sampling and check soil nutrient composition	Technical	5	4.5
CS56	Manage soil nutrient through manuring	Technical	5	4.5
CS57	Prepare land for crop production	Technical	5	8
CS58	Prepare beds/ridges for sowing	Technical	5	8
CS59	Perform transplanting and direct seeding	Technical	5	6
CS60	Perform management practices for crop production	Technical	5	10
CS61	Maintain environment for healthy crop	Technical	5	4.2
CS62	Obey the Workplace Policies and Procedures	Technical	5	2.1
CS63	Perform Integrated Pest Management(IPM)	Technical	5	6
CS64	Perform Weeding	Technical	5	4
CS65	Perform Integrated Disease Management (IDM)	Technical	5	6
CS66	Handle harvested produce	Technical	5	4
CS67	Perform packaging of produce	Technical	5	6
CS68	Store Harvested produce	Technical	5	6
CS69	Maintain Records of produce	Technical	5	3
CS70	Perform Value addition of produce	Technical	5	8
CS71	Market products and services	Technical	5	6
CS72	Sale harvested produce	Technical	5	4
CS73	Develop entrepreneurial skills	Generic	5	2
CS74	Apply management and communication techniques	Generic	5	2
CS75	Create human resource management plan	Generic	5	2
CS76	Develop project management plan	Generic	5	2
CS77	Develop sales plan	Generic	5	2
CS78	Manage finances	Generic	5	2
CS79	Identify and resolve problems	Generic	5	2



4. Date of Validation

The level 5 of National qualification on Tunnel Farming, Greenhouse & Agribusiness has been validated by the Qualifications Validation Committee (QVC) members on January 12-16, 2021 at PITAC, Lahore and will remain valid for ten years i.e. **15 Jan, 2031**

5. Date of Review

The level 5 of National qualification on Tunnel Farming, Greenhouse & Agribusiness has been validated by the Qualifications Validation Committee (QVC) members on January 12-16, 2021 at PITAC, Lahore and shall be reviewed after three years i.e. 15-01-2024.

6. Codes of Qualifications

The International Standard Classification of Education (ISCED) is a framework for assembling, compiling and analyzing cross-nationally comparable statistics on education and training. ISCED codes for these qualifications are assigned as follows:

ISCED Classification for Tunnel Farming, Greenhouse & Agribusiness Level 5	
Code	Description
Off Season Vegetable Supervisor(Level 5)	
CS53	Select suitable site for crop production
CS54	Prepare layout plan for sowing
CS55	Perform soil sampling and check soil nutrient composition
CS56	Manage soil nutrient through manuring
CS57	Prepare land for crop production
CS58	Prepare beds/ridges for sowing
CS59	Perform transplanting and direct seeding
CS60	Perform management practices for crop production
CS61	Maintain environment for healthy crop
CS62	Obey the Workplace Policies and Procedures
CS63	Perform Integrated Pest Management(IPM)
CS64	Perform Weeding
CS65	Perform Integrated Disease Management (IDM)
CS66	Handle harvested produce
CS67	Perform packaging of produce



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CS68	Store Harvested produce
CS69	Maintain Records of produce
CS70	Perform Value addition of produce
CS71	Market products and services
CS72	Sale harvested produce
CS73	Develop entrepreneurial skills
CS74	Apply management and communication techniques
CS75	Create human resource management plan
CS76	Develop project management plan
CS77	Develop sales plan
CS78	Manage finances
CS79	Identify and resolve problems



7. Members of Qualification Development Committee

The following members participated in the qualification development process on 23rd to 27th November’2020 at PITAC, Lahore.

S#	Name	Designation
1.	Dr.M. Nasir Subhani	Associate Professor – PU, Lahore
2.	Dr. Sumaira Maqsood	Assistant Professor – IAS, PU, Lahore
3.	Dr. Waheed Akram	Post Doc. Scholar, Vegetable Research Institute, Academy of Agricultural Sciences Guangzhou China
4.	Dr. Yousaf Noor	Senior Research Officer, Directorate of Soil and Plant Nutrition, ARI, Tarnab Peshawar
5.	Mr. Malik Fiaz Hussain Ferdosi	Assistant Professor – IAS, PU, Lahore
6.	Mr. Adnan Zahid	Lecturer – IAS, PU, Lahore
7.	Ms. Hina Ashraf	PhD Scholar – IAS, PU, Lahore
8.	Mr. Saeed Ahmed	UVAS, Pattoki
9.	Mr. Muhammad Asif	Master Trainer(Off Season Vegetable Production), Lahore
10.	Mr. Muzammil Usman Khan	Consultant (Greenhouse/Off Season Vegetable Production), Punjab
11.	Engr. Danish Khan	DACUM Facilitator
12.	Mr. Muhammad Ishaq	Deputy Director/ Coordinator –(Skills Standards and Curricula) NAVTTTC HQ



8. Members of Qualification Validation Committee

The following members participated in the qualification validation process on 12-01-2021 to 16-01-2021 at PITAC, Lahore.

S#	Name	Designation
1.	Dr. Adnan Zahid	Associate Prof (IAGS,PU, Lahore)
2.	Dr. Sumaira Maqsood	Associate Prof (IAGS,PU, Lahore)
3.	Mr. Farhan Mehmood	Parks and Horticulture Authority, Rawalpindi
4.	Mr. Muhammad Faheem	Research Associate(Agriculture University Rawalpindi)
5.	Ms. Hadia Maqsood	Master Trainer, Seasonal Vegetables Lahore
6.	Mr. Mozzam Anees	Lecturer(IAGS,PU, Lahore)
7.	Ms. Noor Ul Ain	M.Phil. Scholar, (IAGS,PU, Lahore)
8.	Mr. Mushtaq Ahmed	Representative (P-TEVTA), Lahore
9.	Mr. Faqir Muhammad Kafi	PBTE Representative, Lahore
10.	Dr. Mehmood ur Rehman	Representative (S-TEVTA), Khairpur
11.	Mr. Ibrahim Anwar	KPK TEVTA
12.	Engr. Danish Khan	DACUM Facilitator
13.	Mr. Muhammad Ishaq	Deputy Director/ Coordinator – (Skills Standards and Curricula) NAVTTTC HQ

9. Entry Requirements

The entry requirement for this qualification would be Level-4.



10.Detail of Competency Standards

CS 53: Select suitable site for crop production

Overview: This competency standard covers the skills and knowledge related to the information of site selection and selection of suitable site for crop production.

Competency Units	Performance Criteria
CU1. Prepare for site selection	<p>P1. Prepare visit plan of the proposed site as per requirements</p> <p>P2. Formulate Performa for collection of the site information</p> <p>P3. Identify and arrange tools according to visit plan</p> <p>P4. Ensure safety standards as per the job requirements</p>
CU2. Collect site information for selection	<p>P1. Implement site visit plan</p> <p>P2. Calibrate the required instruments as per prescribed standards</p> <p>P3. Collect site data on prescribed format</p> <p>P4. Maintain record according to required format</p> <p>P5. Ensure safety standards as per the job requirements</p>
CU3. Select the Site	<p>P1. Ensure prescribed method is used for data collection and analysis</p> <p>P2. Ensure required standard for quality of soil and water recommended for vegetable production</p> <p>P3. Ensure favourable geographical conditions for tunnel farming</p> <p>P4. Evaluate collected information</p> <p>P5. Maintain records according to set standards</p> <p>P6. Ensure health and safety standards</p>
CU4. Prepare report	<p>P1. Compile analysed information according to prescribed format</p> <p>P2. Prepare report as per particular format</p> <p>P3. Manage records according to required standards</p>



P4. Submit report to concerned head/department

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Principles and practices involved in site selection
- K2.** Health and safety protocols involved
- K3.** General rules and regulations for agriculture/crop production
- K4.** Operating procedure for required tools

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Perform Site selection procedure
- Ensure Health and safety measures

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Pencil
2.	Eraser
3.	Sharpner
4.	Calculator
5.	Measuring scale
6.	Drawing sheet
7.	Measuring tape
8.	Compass
9.	Scotch tape
10.	First aid kits

CS 54: Prepare Layout Plan for Sowing

Overview: This competency standard covers the skills and knowledge required to understand and identify basic principles and procedure involved in lay out planning for sowing.



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Competency Units	Performance Criteria
CU1. Prepare for layout work	P1. Arrange tools for layout planning P2. Prepare work plan for layout P3. Ensure required safety standards
CU2. Prepare layout for sowing	P1. Select standard dimensions and direction for furrows P2. Calculate number of beds/ridges as per standard dimensions P3. Identify irrigation and drainage according to available irrigation methods P4. Ensure safety standards involved in the process

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Basic principles and procedures involved in layout planning
- K2.** Understand working of tools used in layout planning
- K3.** Health and safety principles involved in operations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand basic SOPs for layout
- Adhere to safety standards involved in the process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Measuring tape
2.	Compass
3.	Navigator
4.	First Aid kits
5.	PPEs



CS 55: Perform soil sampling and check soil nutrient composition

Overview: This competency standard covers the skills and knowledge regarding soil sample collection, analysis and evaluation of nutrient requirements for off-season vegetable production.

Competency Units	Performance Criteria
CU.1 Prepare for soil sampling	<p>P1. Identify and arrange required sampling tools</p> <p>P2. Ensure personal safety measures as per job requirement</p> <p>P3. Maintain phytosanitary conditions at site as per standards</p>
CU.2 Collect soil sample	<p>P1. Arrange tools for sampling as per requirements.</p> <p>P2. Collect sub-samples of given site as per random sampling techniques</p> <p>P3. Collect sub-samples of given site as per zone based sampling techniques</p> <p>P4. Collect sub-samples of given site as per grid sampling techniques</p> <p>P5. Collect sub-samples of given site as per stratified sampling techniques</p> <p>P6. Make composite sample according to standard method</p> <p>P7. Draw representative sample for laboratory testing</p> <p>P8. Transport sample to laboratory as per SOPs</p>
CU.3 Evaluate and implement recommendations	<p>P1. Collect report</p> <p>P2. Identify deficient and excess nutrients as per prescribed standard</p> <p>P3. Adopt appropriate measures according to the report recommendations as per standard requirements</p> <p>P4. Monitor/Evaluate the results</p> <p>P5. Ensure health and safety standards</p>

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of



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- K1..** Soil and nutrients
- K2..** Sampling techniques required under different conditions for soil sample collection
- K3..** Safety and general rules regarding field visits
- K4..** Tools and equipment required for sampling
- K5..** Precautions required during sampling
- K6..** Importance of sampling protocols

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Arrange tools for sampling as per requirements.
- Apply Sampling Techniques
- Handling of collected samples
- Follow health and safety rules

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Buckets
2.	Cardboard box
3.	First aid kit
4.	Flow meter
5.	GPS device
6.	Thermo-Hygrometer
7.	Ice box
8.	Marker
9.	Measuring tape
10.	Metal ring
11.	Personal protective equipment (PPE)
12.	Plastic bags
13.	Preservatives
14.	Sacks
15.	Sampling bottles
16.	Shovel
17.	Stainless steel Auger



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18.	Sterilized containers
19.	Stop watch
20.	Tags for labelling
21.	Thermometer
22.	Thread
23.	Spade
24.	Sample Probe
25.	Sampling Stick

CS 56: Manage Soil Nutrients through Manuring

Overview: This competency standard covers the skills and knowledge related to soil nutrients managements for off-season vegetable production.

Competency Units	Performance Criteria
CU1. Prepare for soil nutrient management	P1. Identify and arrange tools required for manuring P2. Adopt precautionary measures regarding personnel health and safety as per standards P3. Prepare work plan for required task
CU2. Organic manuring	P1. Select required organic fertilizers for manuring P2. Calculate the requirement of selected fertilizer as per standard P3. Perform application of organic fertilizers as per standards P4. Perform green manuring operation as per standard methods P5. Ensure health and safety standards involved in manuring
CU3. Inorganic manuring	P1. Identify and enlist the inorganic fertilizers P2. Calculate the amount and type of fertilizer as per recommendation in soil analysis report P3. Perform the application of fertilizer as per standard requirements P4. Ensure health and safety standards involved in manuring

Knowledge & Understanding.



The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1** . Soil and nutrients
- K2** .Health and safety rules regarding manuring
- K3** . Tools and equipment required for manuring

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Arrange tools and equipment's for manuring
- Identify different organic manure
- Identify different in organic manure
- Application of manuring process
- Follow health and safety rules

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Pencil
2.	Eraser
3.	Sharpner
4.	Calculator
5.	Measuring scale
6.	Drawing sheet
7.	Measuring tape
8.	Compass
9.	Chain (Engineering, Gunter & Metric)
10.	Cross Staff
11.	Tripod
12.	Ranging rods
13.	Pegs
14.	Arrows
15.	White chalk
16.	Scotch tape



CS 57: Prepare Land for Crop Production

Overview: This competency standard covers the skills and knowledge related to the land preparation, mechanical operation, manual operation and implement soil conditioning measures for off-season vegetable production.

Competency Units	Performance Criteria
CU1. Plan for Land preparation.	P1. Identify and arrange required tools and equipment for land preparation P2. Ensure availability of required Personal Protective Equipment (PPE) as per the job requirements P3. Prepare plan for required tasks
CU2. Perform mechanical operation for land Preparation.	P1. Identify and arrange required mechanical tillage implements P2. Perform pre checks of required machinery P3. Perform required mechanical operation for land preparation as per standard method P4. Ensure health and safety standards as per the SOPs
CU3. Perform manual operation for land preparation	P1. Identify and arrange required appropriate hand tools P2. Perform manual operations for land preparation as per standard method P3. Ensure health and safety standards involved in required task
CU4. Implement soil conditioning measures	P1. Recognise ideal soil types for vegetable production P2. Maintain standard soil organic matter ratio according to standard procedure P3. Ensure soil aeration and water holding capacity as per standard requirements P4. Ensure soil is well drained P5. Ensure record keeping P6. Ensure health and safety standards
CU5. Perform post land preparation operations	P1. Dispose of non-toxic waste and works debris as per farm policy and environmental standards. P2. Remove stones, sticks and debris as per standard criteria



P3. Ensure health and safety standards

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

K1. Basic principles and procedures involved in the land/soil preparation.

K2. Understand protocols of various implements used in land/soil preparation.

K3. Health and safety principles involved in operations.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand basic SOPs for each required implement
- Understand maintenance and performance checks for required machinery
- Ensure health and safety standards involved in process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Tillage implements
2.	Tractor
3.	Jandra
4.	Planker
5.	Rope
6.	First aid box
7.	PPEs

CS 58: Prepare beds/ridges for sowing

Overview: This competency standard covers the skills and knowledge required to understand and identify basic principles and procedure involved in bed/ridge making process for seed sowing or nursery transplantation.

Competency Units	Performance Criteria
CU1. Prepare work plan	P1. Identify and arrange required tools for bed/ridge preparation P2. Perform checks for quality work



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	P3. Ensure required safety standards
CU2. Prepare beds for sowing	P1. Select required implements for bed preparation P2. Adjust implement according to required bed dimensions P3. Implement layout plan for beds P4. Ensure safety standards involved in the process
CU3. Prepare ridges for sowing	P1. Select required implements for ridge preparation P2. Adjust implement according to required ridge dimensions P3. Implement layout plan for ridges P4. Ensure safety standards involved in the process

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.**Basic principles and procedures involved in operating required implements
- K2.**Understanding the maintenance of required tools
- K3.**Health and safety principles involved in operations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand basic SOPs for each required implement
- Understand maintenance and performance checks for required machinery
- Adhere to safety standard involved in process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Tractor
2.	Bed shaper



3.	Ridger
4.	Jandra
5.	First Aid Box
6.	PPEs

CS 59: Perform transplanting and direct seeding

Overview: This competency standard covers the skills and knowledge required to understand and identify basic principles and procedure involved in nursery transplantation and direct sowing of different vegetables.

Competency Units	Performance Criteria
CU1. Prepare for transplantation	<p>P1. Identify and arrange required materials for transplantation of seedlings</p> <p>P2. Identify and arrange required materials for direct sowing</p> <p>P3. Prepare plan for required task</p> <p>P4. Ensure required safety standards</p>
CU2. Transplant Nursery seedlings of required crop	<p>P1. Identify and arrange required tools for transplantation</p> <p>P2. Perform mulching according to standard requirement</p> <p>P3. Ensure hardening of nursery seedling according to set standards</p> <p>P4. Prepare holes in mulch according to standard method</p> <p>P5. Ensure required environmental conditions for transplantation</p> <p>P6. Perform transplantation of nursery seedling according to standard procedure</p> <p>P7. Maintain records as per defined format</p> <p>P8. Ensure safety standards involved in transplantation</p>
CU3. Perform direct sowing of required crop	<p>P1. Perform mulching according to standard requirement</p> <p>P2. Ensure required seed treatment according to set</p>



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	standards P3. Prepare holes in mulch according to standard method P4. Ensure required environmental conditions for sowing of required crop P5. Perform sowing operation of required crop according to standard procedure P6. Maintain records as per defined format P7. Ensure safety standards involved in sowing
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Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.**Basic principles and procedures involved in nursery transplantation of different crops
- K2.**Basic principles and procedures involved in sowing of different vegetables
- K3.**Understand protocols of various implements used in transplantation and seeding
- K4.**Health and safety principles involved in operations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand basic SOPs for each required implement
- Understand maintenance and performance checks for required machinery
- Adhere to safety standard involved in process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Mulching materials
2.	Cylinder
3.	Puncher
4.	Transportation tools
5.	Augar
6.	First Aid Box
7.	PPEs



CS 60: Perform Management Practices for Crop Production

Overview: This competency standard covers the skills and knowledge required to understand and identify basic principles and procedure involved in nursery transplantation and direct sowing of different vegetables.

Competency Units	Performance Criteria
CU1. Prepare work plan	P1. Identify and arrange tools for required management practices P2. Prepare plan for required task P3. Ensure required safety standards
CU2. Perform earthing-up	P1. Identify and arrange tools for earthing-up P2. Perform earthing-up activity according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU3. Perform thinning	P1. Identify and arrange tools for thinning activity P2. Perform Thinning activity according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU4. Perform training activity	P1. Identify and arrange tools for training of required vegetable P2. Perform training activity on required crop according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU5. Perform pruning to maintain healthy plant	P1. Identify and arrange tools for pruning P2. Perform pruning activity according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU6. Perform staking process	P1. Identify and arrange tools for staking P2. Perform staking process according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU7. Perform emasculatation	P1. Identify and arrange tools for emasculatation P2. Perform emasculatation activity according to standard procedure P3. Ensure required safety standards P4. Maintain records



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CU8. Perform pinching	P1. Identify and arrange tools for pinching P2. Perform pinching activity according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU9. Perform deflowering process	P1. Identify and arrange tools for deflowering P2. Perform deflowering activity according to standard procedure P3. Ensure required safety standards P4. Maintain records
CU10. Maintain phytosanitary conditions	P1. Maintain phytosanitary conditions according to standard procedure P2. Perform safe disposal of plant waste according to SOPs P3. Ensure required safety standards P4. Maintain records

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Basic principles and procedures for required management practices
- K2.** Understand protocols of various implements used for management practices
- K3.** Understanding of international standards for phytosanitary conditions
- K4.** Health and safety principles involved in operations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand SOPs for each required management practice
- Identify tools for required activity
- Adhere to safety standards involved in process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Gardening tool kit
2.	Spray machine
3.	Weather measuring equipment



4.	First Aid Box
5.	PPEs

CS 61: Maintain Environment for Healthy crop

Overview: This competency standard covers the skills and knowledge required to understand and identify basic principles and procedure involved in nursery transplantation and direct sowing of different vegetables.

Competency Units	Performance Criteria
CU1. Prepare work plan	P1. Identify and arrange required tools for measuring environmental conditions P2. Perform calibration of instruments if required P3. Perform quality checks P4. Prepare plan for required task P5. Ensure required safety standards
CU2. Maintain required humidity level in poly-house	P1. Identify and arrange tools required to maintain humidity P2. Perform calibration of required equipment P3. Measure humidity level in required poly-house according to standard method P4. Maintain required humidity level using standard procedure P5. Ensure healthy environment for crop production P6. Maintain records P7. Ensure safety standards involved in process
CU3. Maintain required temperature in poly-house	P1. Identify and arrange tools and equipment required to maintain temperature P2. Perform calibration of required equipment P3. Measure temperature in required poly-house according to standard method P4. Maintain required temperature using standard procedure P5. Ensure healthy environment for crop production P6. Maintain records P7. Ensure safety standards involved in process



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CU4. Maintain daylength in poly-house	P1. Measure day-length in required poly-house according to standard method P2. Maintain required day-length using standard procedure P3. Maintain records P4. Ensure safety standards involved in process

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Basic principles and procedures involved in nursery transplantation of different crops
- K2.** Basic principles and procedures involved in sowing of different vegetables
- K3.** Understand protocols of various implements used in transplantation and seeding
- K4.** Health and safety principles involved in operations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Understand basic SOPs for each required implement
- Understand maintenance and performance checks for required machinery
- Adhere to safety standards involved in process

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Mulching materials
2.	Cylinder
3.	Puncher
4.	Transportation tools
5.	Augar
6.	First Aid Box
7.	PPEs



CS 62: Obey the Workplace Policies and Procedures

Overview: This unit describes the skills and knowledge required to develop and implement a workplace policy & procedure and to modify the policy to suit changed circumstances. It applies to individuals with managerial responsibilities who undertake work-developing approaches to create, monitor, improve strategies and policies within work place and engage with a range of relevant stakeholders and specialists.

Competency Units	Performance Criteria
CU1. Obey the workplace personal appearance and hygiene	P1. Wear suitable clothes for the workplace and respect local and cultural contexts P2. Meet specific company dress code requirements
CU2. Follow work ethics	P1. Follow company value/ ethics code/ conduct policies and guidelines P2. Use company resources in accordance with company ethical standards P3. Conduct personal behavior and relationships in accord with company policy & procedures P4. Demonstrate ethical behavior with co-workers P5. Report work incident situations or resolve accordingly
CU3. Demonstrate the Work place behaviors	P1. Practice the positive behavior P2. Avoid arguing P3. Adopt flexibility in behavior to accept the resistance
CU4. Communicate workplace policy & procedures	P1. Listen directions carefully P2. Ask relevant questions politely P3. Avoid to use abusive language/ expression P4. Respect co-workers and others
CU5. Review the implementation of workplace policy & procedures	P1. Ensure proper implementation of policies P2. Enlist the gaps for improvement P3. Follow the feedback, if any

Knowledge and Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of



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K1: Rules, regulations and SOPs applicable to the organization

K2: Turnaround time to achieve target/goal.

K3: Operational hierarchical levels in an organization.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

- Follow work place policy personal appearances adopting company values/ ethics/ codes and broader policies for ensuring work place SOP's

CS 63: Perform Integrated Pest Management(IPM)

Overview: This competency standard covers the skills and knowledge required to identify pest and disease invasion, schedule the implementation of control strategies by IPM, perform control measures and inspection of control measures.

Competency Units	Performance Criteria
CU1. Identify pest invasion	P1. Identify plant pest and disorders according to prescribed IPM P2. Identify the beneficial organisms according to insect orders. P3. Assess scope and size of the damage according to economic threshold level (ETL) P4. Follow health and safety standards required
CU2. Schedule the implementation of control strategies by IPM	P1. Select required control activities according to damage P2. Identify and arrange tools, equipment, machinery and biological cards for required activity P3. Ensure risks and hazards management according to safety standards P4. Ensure Personal Protective Equipment (PPE) according to required operations P5. Ensure Eco-friendly procedures according to standards.
CU3. Perform pest control measures	P1. Identify and arrange required tools and chemicals required to perform IPM activity P2. Implement IPM standards. P3. Maintain work place after completion of each activity. P4. Prepare performance report according to format. P5. Maintain record according to legislative guidelines.
CU4. Inspect Control measures	P1. Check side effects of control measures on plants and external environment. P2. Measure efficiency of applied control activity with reference to standard protocols. P3. Regulate IPM control methods to meet organizational requisites.

Knowledge & Understanding.



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The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Recognition of pests and diseases.
- K2.** Understand IPM standards or Industry code of conduct.
- K3.** Environmental legislative requirements including toxic substances regulations.
- K4.** Efficient use and maintenance of PPE (Personal Protective Equipment).
- K5.** Side effects and control measures of pesticides.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identification of pests, diseases and beneficial organisms
- Assess damage to plants
- Monitor effectiveness of control methods

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Sprayers
2.	Masks
3.	Goggles
4.	Tank
5.	Measuring scale
6.	Atomizers
7.	Measuring tape
8.	Gloves
9.	Shoes
10.	Lens
11.	Nets
12.	Microscope
13.	Notebook

CS 64: Perform weeding

Overview: This competency standard covers the skills and knowledge required to evaluate weed infestation, schedule weed control measures, weed control operation and inspection of weed control practices.



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Competency Units	Performance Criteria
CU1. Evaluate weed infestation	P1. Identify and arrange tools required P2. Identify and record weeds population and types in target area according to standards. P3. Evaluate the size, stage and span of weed infestation in targeted area on prescribed format. P4. Assess ETL (Economic Threshold Level) of weed in targeted area P5. Select control measures in accordance with health, safety and environmental requisites. P6. Ensure personal health and safety standards
CU2. Prepare schedule for weed control measures	P1. Ensure favorable environmental conditions according to required method P2. Prepare plan for required activity P3. Ensure availability of required resources P4. Ensure eco-friendly procedures P5. Plan execution according to regulatory requirements. P6. Ensure personal health and safety standard
CU3. Perform Manual Weeding	P1. Identify and arrange implements for required process P2. Perform manual weeding process as per standard requirement P3. Ensure PPE for required task P4. Manage records of the control practices according to procedures and monitoring authorities
CU4. Apply weedicides	P1. Identify and arrange implements for required process. P2. Apply weedicides as per required dosage. P3. Ensure use of PPEs according to standards. P4. Manage records of the control practices according to procedures and monitoring authorities

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Identification of weeds and their impact on targeted site.
- K2.** Impact of weeds infestation on plant health and growth.
- K3.** Ensure control practices had minimal impact on non-target species and environment
- K4.** Observe, record and report the efficiency of control procedures.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identification of weeds and non-target species.
- Assess plant health conditions



- Keep records of control methods
- Monitor the effectiveness of control methods.

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Sprayers
2.	Masks
3.	Goggles
4.	Tanks
5.	Measuring scale
6.	Gloves
7.	Shoes
8.	Lens
9.	Notebook
10.	Weeder
11.	Shovel
12.	Spade

CS 65: Perform Integrated Disease Management (IDM)

Overview: This competency standard covers the skills and knowledge required for inspection of plant diseases, plan the management of diseases, implementation of plant disease operations and monitor disease management.

Competency Units	Performance Criteria
CU1. Inspect plant diseases	P1. Identify and arrange tools required for inspection process P2. Identify and record plant diseases and pathogens in target area according to standards P3. Assess the symptoms on targeted plant according to required disease P4. Assess the rate of infection of disease by specific pathogen according to ETL.



CU2. Prepare plan for the management of diseases	P1. Select appropriate control method according to field conditions and legislative measures P2. Prepare plan for selected activity according to environmental conditions. P3. Arrange tools according to required method P4. Ensure availability of personal protective equipment (PPE) according to health and safety procedures
CU3. Implement plant disease management operations	P1. Ensure availability of required material for selected method. P2. Perform required control strategy according to standard procedure. P3. Manage records of the control practices according to procedures. P4. Ensure health and safety standards involved in selected activity.

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of

- K1.** Identification of diseases and disorders on targeted site.
- K2.** Impact of disease infection on plant health and growth.
- K3.** Control practices with minimal impact on non-target species and environment
- K4.** International standard guidelines for required disease management protocols
- K5.** Legislation regarding pesticides usage

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identification of pathogens, disorders and non-target species.
- Assess plant health conditions
- Keep records of control methods
- Monitor the effectiveness of control methods.

TOOLS AND EQUIPMENT



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The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Sprayers
2.	Masks
3.	Goggles
4.	Tanks
5.	Measuring scale
6.	Gloves
7.	Shoes
8.	Lens
9.	Notebook
10.	Petriplates
11.	Media
12.	Autoclave
13.	Microscopes

CS 66: Handle harvested produce

Overview: This competency standard covers the skills and knowledge required to prepare plan for transport of the harvested produce, Perform Transportation of Farm produce, and ensure farm produce quality

Competency Units	Performance Criteria
CU1. Prepare plan for transport of the harvested produce	P1 Identify and arrange transportation tools and equipment. P2. Prepare transportation schedule as per produce requirement. P3. Ensure and manage risks and hazards according to standard protocols. P4. Observe site environmental conditions according to standards.
CU2. Perform Transportation of Farm produce	P1. Identify and arrange transport as per produce requirement P2. Load farm produce according to vehicle capacity. P2. Ensure security of farm produce during load. P3. Ensure transport rules and routes.



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	<p>P4. Unload farm produce on proper spot by following the standard protocols.</p> <p>P5. Maintain records according to departmental requirements.</p> <p>P6. Ensure required health and safety standards</p>
CU3. Ensure farm produce quality	<p>P1. Ensure standard hygiene conditions.</p> <p>P2. Follow enterprise protocols for storage of farm produce.</p> <p>P3. Perform quality checks before and after transportation of farm produce.</p> <p>P4. Maintain Records</p>

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1** Follow the standards protocols for environment and road safety
- K2** Ensure standard hygiene conditions.
- K3** Maintenance of farm vehicles and equipment.
- K4** Relevant biosecurity requirement.
- K5** Use personal and protective equipment.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identification of risks and hazards
- Maintain data of farm produce
- Enlist factors required for handling harvested produce

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Sprayers,
2.	PPEs
3.	Tractors,



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4.	Terrain vehicles (ATVs) and utility vehicles (UTV)
5.	Farm Truck
6.	Wagon
7.	Mowers
8.	Backhoe
9.	Plastic Mulch layer
10.	Scythe
11.	Sickle
12.	Rackers
13.	balers
14.	Combine harvester
15.	Seed drills
16.	Cultivator
17.	Cultipacker
18.	Plows
19.	Harrows
20.	Transplanter

CS 67: Perform packaging of produce

Overview: This competency standard covers the skills and knowledge required to select the packaging materials, its requirement and its labeling.

Competency Units	Performance Criteria
CU1. Select packaging material	<p>P1. Identify the packaging material as per given produce</p> <p>P2. Identify capacity of the packaging material according to market requirement.</p> <p>P3. Ensure Brand Reputation compliance global standards (BRCGS standard)</p>
CU2. Perform packaging	<p>P1. Identify and arrange the materials and tools required for packaging</p> <p>P2. Perform sorting according to prescribe standards</p> <p>P3. Perform the grading according to industry standards</p> <p>P4. Perform packaging of graded produce as per requirement</p> <p>P5. Ensure the correct seal as per requirement</p> <p>P6. Ensure personal hygiene and food safety in</p>



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	accordance with industry guidelines
CU3. Label packaged items	P1. Arrange labels and stickers according to content of packaging P2. Paste Labels and stickers accurately according to product standards P3. Maintain the record according to legislative guidelines

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding the required to carry out tasks covered in this competency standard. This includes the knowledge of:

- Importance of packaging material and its Packaging
- Demonstrate the impact of packaging material on quality of farm product
- Describe the importance of sorting
- Understand the significance of grading
- The careful weights, measures and capacities

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Prepare the sorting and grading procedures
- Prepare layout to follow the packaging standards
- Layout the SOPs for hygiene and quality maintenance

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Packaging bags
2.	Packaging baskets
3.	Needles
4.	Gas cylinder
5.	Calculator
6.	Sealing machine
7.	Label material



CS 68: Store Harvested produce

Overview: This competency standard covers the skills and knowledge required to perform storage of harvested commodity.

Competency Units	Performance Criteria
CU1. Prepare plan for requirements of storage system	P1. Schedule the storage plan according to the storage commodity. P2. Design the layout of storage area. P3. Perform disinfection of storage area according to standard protocol.
CU2. Identify storage requirements of produce	P1. Identify the storage requirements according to produce quantity P2. Ensure seasonal requirements for the harvested produce. P3. Ensure 24/7 electricity source for storage P4. Maintain Hygiene conditions according to defined standards P5. Maintain required temperature and humidity as per required standards
CU3. Ensure conditions for optimum storage of products	P1. Ensure maintain the requirements of storage product. P2. Ensure post-harvest treatments for storage commodity according to standard P3. Perform the appropriate preservation techniques for storage product. P4. Ensure preparation requirements for storage of product P5. Maintain records according to departmental requirements.

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1** Follow the standards protocols for harvesting and storage of product.
- K2** Ensure standard hygiene conditions.
- K3** Maintenance of storage areas.
- K4** Use personal and protective equipment.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Select preservation method according to the type of storage product



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- Allocate storage space according to the type of agricultural commodity
- Disinfect storage area for enhancing shelf life of product
- Design systems for annual supply of storage products

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Refrigerators,
2.	Masks,
3.	Googols,
4.	Tanks
5.	Measuring scale,
6.	Gloves,
7.	Shoes
8.	Tractors,
9.	Farm Truck
10.	Buildings such as sheds
11.	Cupboards
12.	Shelving and racks
13.	Work benches
14.	Storerooms
15.	Pantry
16.	Cool store
17.	Cellar
18.	Root cellar
19.	Bins and containers

CS 69: Maintain Records of produce

Overview: This competency standard covers the skills and knowledge required to maintain stock register, Maintain Assets and Maintain catalogue.

Competency Units	Performance Criteria
CU1. Maintain Inventory registers	P1. Maintain stock register as per standard format. P2. Maintain cash book on prescribed format.



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	<p>P3. Maintain fixed assets register as per prescribed format</p> <p>P4. Maintain crop registers according to standard format.</p>
CU2. Prepare daily performance reports	<p>P1. Maintain Repair and maintenance history sheets.</p> <p>P2. Maintain log books.</p> <p>P3. Maintain crop data sheets according to prescribed format.</p> <p>P4. Prepare and submit damage report according to company SOPs.</p>

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1** Follow standard protocols for record keeping.
- K2** Compare and contrast ways of preparing original and copy cataloguing records.
- K3** Procedure for maintain catalogue records.
- K4** Numeracy skills sufficient to work with numerical record keeping systems.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Typical policies and procedures for record keeping
- Information sources relevant to the collection
- Ethical and cultural issues that impact on collection of record keeping
- Copyright, moral rights and intellectual property issues and legislation that impact on collection of record keeping
- Literacy skills sufficient to interpret reference sources and documentation relating to specific objects and the collection

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Note books,
2.	catalogues,
3.	Pen,
4.	Pencil
5.	Measuring scale,



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6.	Cupboards
7.	Shelving and racks
8.	Work benches
9.	Bins and containers
10.	CDs and Disks
11.	Kits
12.	First aid box

CS 70: Perform Value addition of produce

Overview: This competency standard covers the skills and knowledge required to determine value addition method and value addition with quality assurance. .

Competency Units	Performance Criteria
CU1. Identify Value addition methods	P1. Determine the require product for value addition P2. Identify the value addition methods according to requirements. P3. Prepare cost estimation for required product.
CU2. Perform the sorting and grading for value addition	P1. Identify and Arrange tools required for sorting and grading. P2. Perform sorting according to prescribe standards P3. Perform grading according to required industry standards P4. Ensure personal hygiene and food safety in accordance with industry guidelines
CU3. Perform value addition	P1. Identify the required equipment's, tools and materials as per selected value addition method. P2. Perform required value addition methods according to set standards P3. Ensure personal hygiene and food safety in accordance with industry guidelines P4. Maintain the record as per standard
CU4. Perform the Preservation	P1. Identify and arrange tools and material required for preservation P2. Prepare preservatives according to standard protocol



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	<p>P3. Perform preservation method according to standard protocol.</p> <p>P4. Ensure the personal safety and work place hygiene according to HACCP standards.</p> <p>P5. Ensure food safety in accordance with industry guidelines</p>
CU5. Maintain record	<p>P1. Identify and arrange the tools for labelling as per requirement.</p> <p>P2. Perform labelling according to standard protocols.</p> <p>P3. Maintain records on required format.</p>

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding the required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1** Understand the Industry standards methods
- K2** Understand the significance of sorting and grading
- K3** Understand the value addition methods
- K4** Ensure understanding of preservation methods by temperature, sugar and chemicals.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identify Value addition methods
- Perform sorting and grading procedures
- Select appropriate preservative methods
- Ensure health and safety guidelines

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Mini Solar Drier
2.	Blanching unit
3.	Tray Drier
4.	Vacuum Drier
5.	Needles
6.	Canning unit
7.	Cool Chamber



8. Utensils

CS 71: Market products and services

Overview: This competency standard covers the skills and knowledge required to market products and services.

Competency Unit	Performance Criteria
CU1. Analyze market information	<p>P1. Identify, research and analyze existing or new markets for existing or new products or services using techniques to ensure reliable data</p> <p>P2. Analyze past trends and developments to determine market variability and associated risks</p> <p>P3. Develop gross margin budgets to account for market variability</p> <p>P4. Identify and evaluate competing products to determine strengths and weaknesses of own products</p> <p>P5. Monitor market environment to ensure information is current and reliable</p> <p>P6. Identify the legal, ethical and environmental constraints of the markets and their effect on the enterprise</p> <p>P7. Identify product specifications that suit market requirements and price advantage at the time</p> <p>P8. Present clear and concise information to the enterprise management team.</p>
CU2. Identify and evaluate factors to include in a marketing plan	<p>P1. Identify and evaluate production processes to ensure required product specifications are met</p> <p>P2. Identify and assess alternative selling strategies and techniques to identify marketing targets and methods</p> <p>P3. Identify and assess distribution channels and their role in your marketing strategies</p> <p>P4. Ensure the data used is reliable and the market environment and trends are substantiated</p> <p>P5. Evaluate the role of marketing professionals in providing advice</p>
CU3. Develop a marketing plan for your products and services	<p>P1. Establish marketing objectives based on current and potential product specifications</p> <p>P2. Select appropriate production processes to ensure product specifications are met</p> <p>P3. Select selling strategies to ensure required prices are achieved</p> <p>P4. Select appropriate distribution channel options to ensure access to target markets is achieved efficiently and appropriately</p> <p>P5. Establish timeframes for production, distribution and selling activities</p> <p>P6. Develop a gross margin budget to demonstrate the cost</p>



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	effectiveness of the marketing plan P7. Develop partial gross margin budgets to account for market variability
CU4. Determine promotional strategies	P1. Prepare and record detailed plans for promotional activities P2. Outline objectives, level of exposure and available markets P3. Ensure strategies take account of time management and scheduling issues, and resource constraints P4. Create promotional materials that enhance the product and commercial presentation P5. Record and communicate priorities, responsibilities, timelines and budgets for promotional activities.
CU5. Implement marketing activities	P1. Schedule planned marketing activities within appropriate timeframes P2. Develop measurable performance targets that meet business plan objectives P3. Organize distribution channels and ensure product and service information is accurate and readily available to clients P4. Implement marketing activities within budgetary constraints to meet legal, ethical and enterprise requirements
CU6. Evaluate marketing performance.	P1. Review the established marketing objectives to ensure they remain viable P2. Make an objective assessment of the marketing plan and its implementation by a comparison of valid and reliable data against the established objectives P3. Assess product, pricing and distribution policies in relation to market changes, marketing objectives and enterprise requirements P4. Identify areas of positive marketing performance and take corrective action to remedy poor marketing performance areas P5. Document and distribute information for continual analysis and effective planning management

Knowledge and understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- K1** Describe the life cycle of product
- K2** Identify the various ways of selecting suppliers,
- K3** Explain the inventory management of stock, raw material and finished goods etc.
- K4** Appreciate the importance of financial record keeping in a small business
- K5** Explain techniques to keep cost as low as possible
- K6** Develop balance sheet for a small enterprise
- K7** Explain the operating cycle concept



- K8** Explain the income tax computation procedure for a small business
K9 Explain the basic scheme of sales tax
K10 Explain the assessment procedure for returns and filling of returns.

Critical Evidence(s) Required

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all the requirements of the performance criteria and required skills and knowledge and include achievement of the following:

- Marketable features of the product and potential markets
- Range of marketing alternatives
- Data to assess alternatives in a marketing plan
- Performance targets and recommend modifications or improvements
- Implement and evaluate a marketing plan
- Plan to manage promotional activities

CS 72: Sale harvested produce

Overview: This competency standard covers the skills and knowledge required to select the suitable market for sale of produce and ways to market.

Competency Units	Performance Criteria
CU1. Prepare for Sale of produce	P1. Identify and arrange required material for sale P2. Prepare work plan for selling of required produce P3. Perform checks for required tools and machinery P4. Ensure health and safety guidelines for required task
CU2. Manage sale	P1. Arrange required material P2. Load commodities according to required order P3. Ensure loading standards P4. Transport produce to required place following company's SOPs P5. Deliver produce according to decided orders
CU3. Manage Finance	P1. Maintain sales record on required format P2. Prepare triplicates for each delivery P3. Collect cash according to set SOPs P4. Maintain Cash Book according to required format P5. Maintain ledgers according to prescribed formats

Knowledge & Understanding.

The candidate must be able to demonstrate underpinning knowledge and understanding the required to carry out tasks covered in this competency standard. This includes the knowledge of:

- K1** Marketing skills
K2 How to perform sales



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K3 Maintenance of records

K4 Principals and procedures related to sales and marketing

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Manage sales
- Maintain records
- Understand sales and marketing principles

TOOLS AND EQUIPMENT

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Boards
2.	Laptop
3.	Ledgers
4.	Cash books
5.	Receipt books
6.	Pencils
7.	Charts
8.	PPEs

CS 73: Develop entrepreneurial skills

Overview: This Competency Standard identifies the competencies required to develop entrepreneurial skills by Hotel manager, in accordance with the organization’s approved guidelines and procedures. You will be expected to develop a business plan, collect information regarding revenue generation, develop a marketing plan and develop basic business communication skills. Your underpinning knowledge regarding entrepreneurial skills will be sufficient to provide you the basis for your work.

Competency Unit	Performance Criteria
CU1. Develop a business plan	P1. Conduct a market survey to collect following information <ul style="list-style-type: none">• Business Model• Financials• Equipment Estimation• Revenue Generation Sources• Marketing strategy



	<ul style="list-style-type: none">• Market Trends• Overall Expenses <p>P2. Select the best option in terms of cost, service, quality, sales, operational expenses</p> <p>P3. Compile the information collected through the market survey, in the business plan format</p>
CU2. Develop a marketing plan	<p>P1. Make a marketing plan for the service products, price, placement, promotion, people, packaging and positioning</p> <p>P2. Include the information of marketing plan in the business plan</p>
CU3. Develop basic business communication skills	<p>P1. Communicate with guests using effective communication skills</p> <p>P2. Use different modes of communication to communicate effectively e.g.: presentation, speaking, writing, listening, visual representation, reading etc.</p> <p>P3. Use specific business terms used in the market</p>

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- K1** 7Ps of marketing including product, price, placement, promotion, people, packaging and positioning
- K2** 7Cs of business communication
- K3** Different modes of communication and their application in the industry
- K4** Specific business terms used in the industry
- K5** Available funding sources
- K6** Low interest loans to start a new business
- K7** Market survey and its tools e.g.: questionnaire, interview, observation etc.
- K8** Market trends for specific product offering
- K9** State the main elements of business plan
- K10** Business plan format

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- List 7Ps
- List 7Cs

CS 74: Apply management and communication techniques

Overview: This unit describes the skills and knowledge required to provide a critical link between people, ideas and information at all stages in the project life cycle. It involves assisting the project team to plan communications, communicating information related to the project, and reviewing communications. It applies to individuals who are project practitioners working in a project support role.



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Competency Unit	Performance Criteria
CU1. Contribute to communications planning	P1. Identify, source and contribute relevant information requirements to initial project documentation P2. Contribute to developing and implementing the project communications plan and communications networks
CU2. Conduct information-management activities	P1. Act on and process project information according to agreed procedures as directed, to aid decision-making processes throughout project life cycle P2. Maintain information to ensure data is secure and auditable
CU3. Communicate project information	P1. Communicate with clients and other stakeholders during project using agreed networks, processes and procedures to ensure flow of necessary information P2. Ensure reports are prepared and released according to authorization, or produced for release by others P3. Seek information and advice from appropriate project authorities as required
CU4. Contribute to assessing effectiveness of communication	P1. Assist in ongoing review of project outcomes to determine effectiveness of communications-management activities P2. Report communications-management issues and responses to higher project authorities for application of lessons learned to future projects

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- K1** Summarize models and methods of communications management in context of project life cycle and other project management functions
- K2** Importance of managing risk by treating information securely
- K3** Methods of reviewing outcomes
- K4** Organizational policies and procedures relevant to this role in a specific context.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

- A person who demonstrates competency in this unit must be able to provide evidence of the ability to apply project information management and communications techniques. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

CS 75: Create human resource management plan

Overview: This unit describes the skills and knowledge required to assist with aspects of human resources management of a project. It involves establishing human resource requirements,



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identifying the learning and development needs of people working on the project, facilitating these needs being met, and resolving conflict in the team. It applies to individuals who are project practitioners working in a project support role.

Competency Unit	Performance Criteria
CU1. Assist in determining human resource requirements	<p>P1. Analyze work breakdown structure to determine human resource requirements</p> <p>P2. Prepare a skills analysis of project personnel against project task requirements</p> <p>P3. Assist in assigning responsibilities for achieving project deliverables</p>
CU2. Contribute to establishing and maintaining productive team relationships	<p>P1. Actively seek views and opinions of team members during task planning and implementation</p> <p>P2. Promote cooperation and effective activities, goals and relationships within team</p> <p>P3. Communicate with others using styles and methods appropriate to organizational standards, group expectations and desired outcomes</p> <p>P4. Communicate information and ideas to others in a logical, concise and understandable manner</p> <p>P5. Regularly seek feedback on nature and quality of work relationships, and use feedback as basis for own improvement and development</p>
CU3. Assist with human resource monitoring	<p>P1. Monitor work of project personnel against assigned roles and responsibilities within delegated authority levels</p> <p>P2. Monitor and control actual effort against project plan</p> <p>P3. Review skill levels against allocated tasks and recommend solutions, where required, to others</p> <p>P4. Advise others within delegated authority when assigned responsibilities are not met by project personnel</p> <p>P5. Undertake work in a multi-disciplinary environment according to established human resource management practices, plans, guidelines and procedures</p> <p>P6. Resolve conflict within delegated authority according to agreed dispute-resolution processes</p> <p>P7. Assist in offering human resource development opportunities to individuals with skill gaps</p>
CU4. Contribute to evaluating human resource practices	<p>P1. Contribute to assessing effectiveness of project human resources management</p> <p>P2. Document lessons learned to support continuous improvement processes</p>

Knowledge & Understanding



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The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Alternative project personnel engagement options
- Job design principles and work breakdown structures
- Learning and development approaches that can be incorporated into project life cycle
- Methods for skills analysis
- Project roles, responsibilities and reporting requirements for human resources.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

- A candidate who demonstrates competency in this unit must be able to provide evidence of the ability to apply project human resources management approaches. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.



CS 76: Develop project management plan

Overview: This unit describes the skills and knowledge to develop a plan for a hotel management plan, including assessing project requirements and planning for all stages to completion and final documentation.

Competency Unit	Performance Criteria
CU1. Prepare project management plan	P1. Evaluate and assess project brief and related documents P2. Produce document on project tasks and associated timelines, including installation processes and test requirements P3. Assess and produce document on resource requirements to assist allocation of appropriate resources P4. Produce training plan assessing training needs and associated timelines for efficient project implementation P5. Determine and document budgetary requirements P6. Discuss roles of all identified parties associated with project to ensure their involvement P7. Produce project verification document, including monitoring and control processes, and review processes such as quality audits P8. Consult with all relevant parties prior to finalizing draft plan and make changes as appropriate
CU2. Develop and evaluate management plan	P1. Produce preliminary plan for consultation, including identified factors that may impact on realization of project and observance of relevant legislation, codes, regulation and standards P2. Consult with client and clarify any amendments P3. Develop final plan with recommendations
CU3. Communicate project information	P1. Produce and document final plan to include implementation details and training needs P2. Present plan to client and obtain sign off
CU4. Contribute to assessing effectiveness of communication	P1. Assist in ongoing review of project outcomes to determine effectiveness of communications-management activities P2. Report communications-management issues and responses to higher project authorities for application of lessons learned to future projects

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

K1 Key attributes of common telecommunications applications and related equipment



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- K2** Evaluate the connections to carrier infrastructure or equipment
- K3** Current legislation relating to the design of installation of telecommunications equipment and connection to carrier services
- K4** Advantages of leasing and purchase options to assist in delivering cost effective solutions
- K5** Evaluate network and transmission equipment
- K6** Network topologies, and interface and interconnect solutions
- K7** Workplace health and safety (WHS) issues that need to be built into a plan, with consideration of:
 - a. electrical safety
 - b. materials handling
 - c. physical hazards
 - d. confined spaces
 - e. heights
 - f. lifting
- K8** Evaluate the power requirements and electrical safety aspects of the installation plan
- K9** Performance parameters and typical faults that may be encountered in client equipment and related connection and transmission media
- K10** Various test equipment types suitable for tests to be made
- K11** Warranty information for equipment supplies and contractor work guarantees.

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to develop a project management plan. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

- determine the project attributes and specifications
- prepare a coherent draft project management plan
- consult on and revise a project management plan
- document final project management plan and obtain sign off

CS 77: Develop sales plan

Overview: This unit describes the skills and knowledge required to develop a sales plan for a product or service for a team covering a specified sales territory based on strategic objectives and in accordance with established performance targets. It applies to individuals working in a supervisory or managerial sales role who develop a sales plan for a product or service.

Competency Unit	Performance Criteria
CU1. Identify organizational strategic direction	P1. Obtain and analyze assessment of market needs and strategic planning documents P2. Review previous sales performance and successful approaches to identify factors affecting performance P3. Analyze information on market needs, new opportunities,



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	customer profiles and requirements as a basis for decision making P4. Carry out competitor analysis for rate structure
CU2. Establish performance targets	P1. Determine practical and achievable sales targets P2. Establish realistic timelines for achieving targets P3. Determine measures to allow for monitoring of performance P4. Ensure objectives of the sales plan and style of the campaign are consistent with organizational strategic objectives and corporate image
CU3. Develop a sales plan for a product	P1. Determine approaches to be used to meet sales objectives P2. Identify additional expertise requirements and allocate budgetary resources accordingly P3. Identify risks and develop risk controls P4. Develop advertising and promotional strategy for product P5. Identify appropriate distribution channels for product P6. Prepare a budget for the sales plan P7. Present documented sales plan to appropriate personnel for approval
CU4. Identify support requirements	P1. Identify and acquire staff resources to implement sales plan P2. Develop an appropriate selling approach P3. Train staff in the selling approach selected P4. Develop and assess staff knowledge of product to be sold
CU5. Monitor and review sales plan	P1. Monitor implementation of the sales plan P2. Record data measuring performance versus sales targets P3. Make adjustments to sales plan as required to ensure required results are obtained

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Outline principles and techniques for selling
- Outline methods for monitoring sales outcomes
- Statistical techniques for analyzing sales and market trends
- Internal and external sources of information that are relevant to identifying organizational strategic direction and developing a product sales plan.
- Competitors intelligence

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:



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A person who demonstrates competency in this unit must be able to provide evidence of the ability to develop a sales plan. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

- analyze information from a range of sources to develop a sales plan for a product and sales territory that meets organizational strategic direction including:
 - resource requirements and budget
 - achievable sales targets
 - performance measures
 - approaches to be used to meet objectives
 - risk management
 - advertising and promotional strategy
 - product distribution channels
- acquire staff, develop selling approach and provide training support on product knowledge and sales approach
- Monitor and evaluate performance and adjust the plan as appropriate

CS 78: Manage finances

Overview: This unit of competency describes the outcomes required to develop, implement and monitor a personal budget in order to plan regular savings and manage debt effectively.

Competency Unit	Performance Criteria
CU1. Develop a personal budget	P1. Calculate current living expenses using available information to prepare a personal budget. P2. Keep a record of all income and expenses for a short period of time to help estimate ongoing expenses. P3. Subtract total expenses from total income to determine a surplus or deficit budget for the specified period. P4. Find reasons for a deficit budget and ways to reduce expenditure identified. P5. Identify ways to increase income, if possible
CU2. Develop longer term personal budget	P1. Analyze income and expenditure and set longer term personal, work and financial goals. P2. Develop a longer-term budget based on the outcomes of short-term budgeting, and adjust to meet living, work and future career requirements. P3. Identify obstacles that might affect finances such as job loss, sickness or unexpected expenses contingency savings P4. Formulate a regular savings plan based on budget, using secure savings products and services. P5. Monitor expenditure against budget and identify areas of possible expenditure saving



CU3. Identify ways to maximize future finances

P1. Determine sources and ways to maximize personal income, including from work, investments or available government payments/allowances.

P2. Get further education or training to maintain or improve future income.

P3. Identify the need for debt to finance living and other expenses, and determine the appropriate levels of debt and repayment.

P4. Consolidate existing debt, where possible, to minimize interest costs and fees.

P5. Seek professional money management services, where available, to ensure financial plans are effective and achievable

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Abilities to plan and organize to keep records and monitor a personal budget
- Abilities to set and review goals
- Basic financial management and record keeping to enable development and management of a personal budget
- Benefits of financial goal setting and personal budgeting to enable effective management of personal finances
- Numeracy skills to compare income and expenditure

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

A candidate who demonstrates competency in this unit must be able to provide evidence of the ability to manage personal finances. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Demonstrated evidence is required of the ability to:

- develop a personal budget based on analysis of expenditure and income;
- formulate goals and identify financial contingency plans; and
- Monitor expenditure for a period of up to 2 weeks.



CS 79: Identify and resolve problems

Overview: This unit is focus on negotiation in critical incidents and the development of strategic responses designed to resolve threatening incidents.

Competency Unit	Performance Criteria
CU1. Identify a problem	<p>P1. Form a problem statement and analyze root cause.</p> <p>P2. Take initiative in tackling problems rather than relying solely on directives</p> <p>P3. Follow logic steps in understanding root cause and analyzing potential solutions.</p>
CU2. Determine strategies for a required solution	<p>P1. Analyze all aspects of the incident for degree of hazard, priorities, optional outcomes and appropriate strategies</p> <p>P2. Analyze and determine strategies and priorities on the incident sought from a range of sources</p> <p>P3. Assess long term objectives against resources and priorities</p> <p>P4. Apply a range of communication techniques to make and maintain contact with the key people</p> <p>P5. Provide clear and factual information to enable an honest and realistic assessment of the interests of the key people and their positions</p> <p>P6. Resolve the conflict and express their likely consequences clearly and do an analysis of the benefits</p> <p>P7. Reassess points of disagreements for common positive Positions</p>
CU3. Coordinate support Services	<p>P1. Assess the need for support services in terms of the determined strategies and priorities</p> <p>P2. Negotiate the resources of support services according to established procedures and availability</p> <p>P3. Provide information on strategies to support services and maintain the communication</p> <p>P4. Delegate roles and responsibilities according to expertise and resources</p>
CU4. Restore order	<p>P1. Assess the incidents for degree of risk and take appropriate action to reduce and remove the impact of the incident and restore order</p> <p>P2. Take action designed to minimize risk and the preserve the safety and security of all involved</p> <p>P3. Take action to prevent the escalation of the incident appropriate to the circumstances and agreed procedures.</p> <p>P4. Carry out the use of force for the restoration of control and the maintenance of security in the least restrictive manner.</p> <p>P5. Complete reports accurately and clearly provided to the appropriate authority promptly</p> <p>P6. Review, evaluate and analyze the incident and the organizational</p>



	response to it and report it promptly and accurately.
CU5. Provide leadership. direction and guidance to the work group	<p>P1. Link between the function of the group and the goals of the organization</p> <p>P2 .Participate in decision making routinely to develop, implement and review work of the group and to allocate responsibilities where appropriate</p> <p>P3 .Give opportunities and encouragement to others to develop new and innovative work practices and strategies</p> <p>P4. Identify conflict and resolve with minimum disruption to work group function</p> <p>P5.Provide staff with the support and supervision necessary to perform work safely and without risk to health</p> <p>P6 .Allocate tasks within the competence of staff and support with appropriate authority, autonomy and training</p> <p>P7 .Supervise appropriately the changing priorities and situations and takes into account the different needs of individuals and the requirements of the task</p>

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- K1** Organization’s policies, guidelines and procedures related to control and surveillance, safety and preventing and responding to incidents and breaches of orders covered in the range of variables.
- K2** Organization’s management and accountability systems
- K3** Teamwork principles and strategies
- K4** Principles of effective communication
- K5** Guidelines for use of equipment and technology
- K6** Code of conduct

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

A candidate who demonstrates competency in this unit must be able to provide evidence of the ability to resolve problems which jeopardize safety and security. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.