

Qualification Pack



Hydroponics Technician

QP Code: AGR/Q0808

Version: 3.0

NSQF Level: 4

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AGR/Q0808: Hydroponics Technician

Brief Job Description

A Hydroponics Technician grows plants in a controlled environment using alternative materials instead of soil as per the hydroponics farming method. The individual is also responsible for setting and maintaining a hydroponic farm apart from maintaining, harvesting and marketing the plants grown at the farm.

Personal Attributes

The individual must be physically fit to work for long durations. The person must have attention to detail, problem-solving skills with the ability to work collaboratively with others to achieve the work objectives. The individual must know how to read and write.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0822: Set up and maintain the hydroponic system and plants/ crop](#)
2. [AGR/N0846: Set up and maintain the aeroponic farm](#)
3. [AGR/N0823: Carry out harvesting, post-harvest management and marketing activities](#)
4. [AGR/N9903: Maintain health and safety at the workplace](#)
5. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, Gardening and Urban Farming
Country	India
NSQF Level	4
Credits	13
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

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Minimum Educational Qualification & Experience	12th grade Pass OR Completed 2nd year of the 3-year diploma after 10 (and pursuing regular diploma) OR 10th grade pass (plus 2-year NTC) OR 10th grade pass (plus 1-year NTC plus 1 year NAC) OR 8th grade pass with 2 year NTC plus 1 year NAC plus 1 year CITS OR 10th grade pass and pursuing continuous schooling OR 10th grade pass with 2 Years of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 3.0 with minimum education as 8th Grade pass) with 3 Years of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 3.5 with 1.5- year relevant experience)
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	31/03/2026
NSQC Approval Date	31/03/2023
Version	3.0
Reference code on NQR	QG-04-AG-00289-2023-V1.1-ASCI
NQR Version	1.1

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AGR/N0822: Set up and maintain the hydroponic system and plants/ crop

Description

This OS unit is about setting up the hydroponic system and maintaining it along with the plants/ crop in the system.

Scope

The scope covers the following :

- Select the crop/ plant and site for hydroponic farming
- Propagate seedlings for hydroponic farming
- Set up the hydroponic system
- Maintain the hydroponic system and plants/ crop
- Carry out irrigation and fertigation

Elements and Performance Criteria

Select the crop/ plant and site for hydroponic farming

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

- PC1.** select the appropriate crops/ plants suitable for hydroponics farming based on priority and market demand
- PC2.** select a location with the required temperature and sunlight exposure, suitable to the selected plant/ crop variety
- PC3.** ensure the availability of various inputs such as water, electricity, fertilisers and labour for hydroponic farming
- PC4.** prepare the tabulation of the crop, following the recommended process

Propagate seedlings for hydroponic farming

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

- PC5.** select the appropriate growth medium for seed germination, ensuring the medium has the required characteristics such as moderate fertility, water holding capacity, good aeration capacity, etc.
- PC6.** use coco peat, rice husk, and sand peat to raise seedlings, avoiding the use of any medium to grow agronomical crops such as wheat, paddy, maize, barley, oat, etc. for nursery and fodder purposes
- PC7.** sterilise the growing medium before use, according to the applicable sterilisation limit
- PC8.** select nursery containers for the growth of plants such as clay pots, plastic pots, or trays, as required
- PC9.** clean and sterilise the pots and trays before sowing seeds
- PC10.** apply the nutrient solution in the recommended quantity to the trays and pots and sow the seeds
- PC11.** maintain seedlings in the trays and pots for the recommended duration, protecting them from pests and disease and ensuring effective nutrient management

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PC12. harvest the seedlings at the appropriate stage of their growth to be transplanted in the appropriate hydroponic system

Set up the hydroponic system

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

- PC13.** select the appropriate hydroponic technique for growing quality medium to obtain quality produce with the required colour, appearance, etc.
- PC14.** select different kinds of substrates to be used for the cultivation of vegetables and fruits, such as lava rocks, clay pebbles, coco peat, ensuring the substrate does not contain excess salt or other elements that are harmful to plants
- PC15.** select an appropriate nutrient circulation method such as the Nutrient Film Technique, Deep Flow Technique (DFT), wick system, water culture, EBB and Flow, drip system, etc.
- PC16.** create holes in Polyvinyl Chloride (PVC) pipes for the Deep Flow Technique (DFT) and insert plants placed in plastic net pots, in the holes made in PVC pipes
- PC17.** use the recommended flooring material in the hydroponic farm, that is capable of soaking in any spillage and leakages
- PC18.** adopt the Nutrient Film Technique (NFT) for leafy plants for their faster growth
- PC19.** sterilise the growing medium before use
- PC20.** place plants in growing tubes and suspend them into water
- PC21.** use pest and disease-free seedlings, and planting material for the establishment of hydroponic crops
- PC22.** maintain a reservoir to hold the nutrient solution and pump it as per the requirement to the tubes of growing plants
- PC23.** automate the nutrient flow system using the cyclic monitoring application, as required
- PC24.** use non-circulating methods for nutrient application, where applicable, such as root dipping technique, floating technique, capillary action technique, etc.
- PC25.** ensure the availability of adequate lighting for the optimum growth of plants in the hydroponic system through the use of a relevant lighting system, such as the solar lighting system

Maintain the hydroponic system and plants/ crop

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

- PC26.** check the pipes for any salt deposits and remove it safely to prevent choking and ensure the nutrient solution flows without obstruction through the pipes
- PC27.** check and ensure that the roots of plants get an appropriate quantity of nutrient solution for healthy growth
- PC28.** drain out the rainwater from the site to ensure no waterlogging
- PC29.** clean and monitor the condition of motors controlling water tanks, pumps, and growing trays
- PC30.** use clean water in the hydroponic system and maintain the pH level of the water by using the recommended treatment
- PC31.** clean the floor and maintain it dry in the hydroponic system
- PC32.** detect pests and diseases and take appropriate remedial measures
- PC33.** position the grains appropriately on growing trays to prevent waterlogging in them
- PC34.** soak good quality grains as per the requirement and use an appropriate time-management technique to avoid over-soaking of grains

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- PC35.** use mesh filters for regular cleaning
- PC36.** carry out manual or auto-misting of the crop and plants with water to prevent the harmful effects of temperature
- PC37.** use nets for aeration and to prevent birds and animals from preying on the plants/ crop
- PC38.** check the pH using a pH meter regularly and follow the recommended practices to adjust it to the required level in the hydroponic system and nutrient solution, as required
- PC39.** maintain the recommended nutrient solution temperature, and take appropriate measures to control the temperature
- PC40.** use the oxygen meter with mobile application support and alarm to monitor the level of dissolved oxygen in the nutrient solution and follow the recommended practices to maintain or adjust it
- PC41.** maintain the recommended air space between the nutrient solution and the roots of plants
- PC42.** clean the hydroponic system regularly using chlorine or other recommended treatment, and flush the system with clean water before replanting
- PC43.** use auto-cleaning systems for cleaning in large-scale hydroponic systems to save time and achieve better productivity
- PC44.** ensure the required macro and micronutrients are available to plants and crops according to different stages of their growth
- PC45.** maintain hygiene along with the recommended temperature and Relative Humidity (RH) at the site of hydroponic farming by following the recommended practices, such as the use of exhaust fans
- PC46.** carry out artificial pollination using blowers, and use mechanical vibrators to improve air quality within the protected hydroponic system structures
- PC47.** install artificial supporting structures and train tall-growing intermediate crop varieties such as tomatoes and cucumber, and crops bearing heavy produce such as bell pepper, eggplant, etc.
- PC48.** tie strings at the base of each plant with an appropriate material such as polythene
- PC49.** carry out pruning of plants using the appropriate tools and implements, when required

Carry out irrigation and fertigation

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

- PC50.** carry out irrigation of plants either manually or using the drip irrigation system, as per the irrigation schedule
- PC51.** determine the amount of fertilisers to be used for fertigation based on the selected crop, its stages of growth, and the type of selected hydroponics technique
- PC52.** select the relevant fertigation technique for use, as appropriate
- PC53.** mix the appropriate fertilisers with the daily water requirement and apply it manually or by using a fertigation system/nutrient tank, according to the selected fertigation technique
- PC54.** maintain the record of irrigation and fertigation of crop

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** applicable work modalities and requirements for hydroponic farming

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- KU2.** different types of hydroponics systems
- KU3.** the process of testing seed/ grain for germination
- KU4.** the seed treatment process
- KU5.** process of hydroponic cultivation using the relevant automated systems
- KU6.** various substrates used in hydroponic farming
- KU7.** the application of Deep Flow Technique (DFT) and Nutrient Film Technique (NFT)
- KU8.** operations of the greenhouse and its efficiency
- KU9.** different types of nutrient solutions, their composition and application
- KU10.** the impact of different climatic conditions on hydroponic farming
- KU11.** use of hydroponics kits and home hydroponic unit
- KU12.** the indoor hydroponic system and relevant plants
- KU13.** the criteria for selecting the location, plant varieties and substrate/ growth medium for hydroponic farming
- KU14.** the benefits and process of setting up different types of hydroponic systems such as Deep Water Culture (DWC) system, wick system, drip system, Ebb and Flow (Flood and Drain), and Nutrient Film Technique (NFT)
- KU15.** different types of materials, tools and equipment required for setting up different types of hydroponic systems
- KU16.** different types of materials used for preparing the substrate/ growth medium such as coco coir, coco chips, perlite, vermiculite, peat moss, lava rock, river rock, etc.
- KU17.** the process of preparing the nutrient solution and different types of nutrients used in it
- KU18.** the criteria for selecting a suitable cultivar for hydroponic propagation
- KU19.** the root architecture and surface chemistry of different plant species and their role in water and nutrient uptake
- KU20.** the essential plant nutrient elements and the criteria for essentiality
- KU21.** the symptoms of plant nutrient element deficiency and excess
- KU22.** the frequency and rate of nutrient solution dosing of plant roots
- KU23.** the common compounds and elements, their permissible levels to be maintained in water for general hydroponic use
- KU24.** the characteristics of high-quality irrigation water
- KU25.** the process of filtering and sterilising the water and nutrient solution
- KU26.** the need of making appropriate adjustments to the nutrient solution according to plant species
- KU27.** the appropriate nutrient solution temperature to be maintained
- KU28.** the Electrical conductivity (EC) of a nutrient solution and how to maintain it in the rooting medium
- KU29.** the important electrical, electronic and environmental parameters to be maintained in a hydroponic system such as air, wind, humidity, temperature and water quality parameters
- KU30.** the process of raising seedlings for hydroponics farming
- KU31.** the appropriate pH levels to be maintained in the hydroponics system
- KU32.** the process to be followed for the production of contamination-free crop

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- KU33.** the appropriate method and timing for the application of nutrient solutions to plants and crops in hydroponics systems
- KU34.** the relevant medium-less hydroponic systems, their advantages and limitations

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to learn about the latest developments in the field of work
- GS3.** communicate politely and professionally
- GS4.** take quick decisions to resolve work-related issues and minimise the impact on productivity
- GS5.** listen attentively to understand the information being shared
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** co-ordinate with the co-workers to achieve the work objectives

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the crop/ plant and site for hydroponic farming</i>	4	6	-	4
PC1. select the appropriate crops/ plants suitable for hydroponics farming based on priority and market demand	-	-	-	-
PC2. select a location with the required temperature and sunlight exposure, suitable to the selected plant/ crop variety	-	-	-	-
PC3. ensure the availability of various inputs such as water, electricity, fertilisers and labour for hydroponic farming	-	-	-	-
PC4. prepare the tabulation of the crop, following the recommended process	-	-	-	-
<i>Propagate seedlings for hydroponic farming</i>	6	8	-	6
PC5. select the appropriate growth medium for seed germination, ensuring the medium has the required characteristics such as moderate fertility, water holding capacity, good aeration capacity, etc.	-	-	-	-
PC6. use coco peat, rice husk, and sand peat to raise seedlings, avoiding the use of any medium to grow agronomical crops such as wheat, paddy, maize, barley, oat, etc. for nursery and fodder purposes	-	-	-	-
PC7. sterilise the growing medium before use, according to the applicable sterilisation limit	-	-	-	-
PC8. select nursery containers for the growth of plants such as clay pots, plastic pots, or trays, as required	-	-	-	-
PC9. clean and sterilise the pots and trays before sowing seeds	-	-	-	-
PC10. apply the nutrient solution in the recommended quantity to the trays and pots and sow the seeds	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. maintain seedlings in the trays and pots for the recommended duration, protecting them from pests and disease and ensuring effective nutrient management	-	-	-	-
PC12. harvest the seedlings at the appropriate stage of their growth to be transplanted in the appropriate hydroponic system	-	-	-	-
<i>Set up the hydroponic system</i>	6	8	-	6
PC13. select the appropriate hydroponic technique for growing quality medium to obtain quality produce with the required colour, appearance, etc.	-	-	-	-
PC14. select different kinds of substrates to be used for the cultivation of vegetables and fruits, such as lava rocks, clay pebbles, coco peat, ensuring the substrate does not contain excess salt or other elements that are harmful to plants	-	-	-	-
PC15. select an appropriate nutrient circulation method such as the Nutrient Film Technique, Deep Flow Technique (DFT), wick system, water culture, EBB and Flow, drip system, etc.	-	-	-	-
PC16. create holes in Polyvinyl Chloride (PVC) pipes for the Deep Flow Technique (DFT) and insert plants placed in plastic net pots, in the holes made in PVC pipes	-	-	-	-
PC17. use the recommended flooring material in the hydroponic farm, that is capable of soaking in any spillage and leakages	-	-	-	-
PC18. adopt the Nutrient Film Technique (NFT) for leafy plants for their faster growth	-	-	-	-
PC19. sterilise the growing medium before use	-	-	-	-
PC20. place plants in growing tubes and suspend them into water	-	-	-	-
PC21. use pest and disease-free seedlings, and planting material for the establishment of hydroponic crops	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. maintain a reservoir to hold the nutrient solution and pump it as per the requirement to the tubes of growing plants	-	-	-	-
PC23. automate the nutrient flow system using the cyclic monitoring application, as required	-	-	-	-
PC24. use non-circulating methods for nutrient application, where applicable, such as root dipping technique, floating technique, capillary action technique, etc.	-	-	-	-
PC25. ensure the availability of adequate lighting for the optimum growth of plants in the hydroponic system through the use of a relevant lighting system, such as the solar lighting system	-	-	-	-
<i>Maintain the hydroponic system and plants/ crop</i>	8	10	-	8
PC26. check the pipes for any salt deposits and remove it safely to prevent choking and ensure the nutrient solution flows without obstruction through the pipes	-	-	-	-
PC27. check and ensure that the roots of plants get an appropriate quantity of nutrient solution for healthy growth	-	-	-	-
PC28. drain out the rainwater from the site to ensure no waterlogging	-	-	-	-
PC29. clean and monitor the condition of motors controlling water tanks, pumps, and growing trays	-	-	-	-
PC30. use clean water in the hydroponic system and maintain the pH level of the water by using the recommended treatment	-	-	-	-
PC31. clean the floor and maintain it dry in the hydroponic system	-	-	-	-
PC32. detect pests and diseases and take appropriate remedial measures	-	-	-	-
PC33. position the grains appropriately on growing trays to prevent waterlogging in them	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. soak good quality grains as per the requirement and use an appropriate time-management technique to avoid over-soaking of grains	-	-	-	-
PC35. use mesh filters for regular cleaning	-	-	-	-
PC36. carry out manual or auto-misting of the crop and plants with water to prevent the harmful effects of temperature	-	-	-	-
PC37. use nets for aeration and to prevent birds and animals from preying on the plants/ crop	-	-	-	-
PC38. check the pH using a pH meter regularly and follow the recommended practices to adjust it to the required level in the hydroponic system and nutrient solution, as required	-	-	-	-
PC39. maintain the recommended nutrient solution temperature, and take appropriate measures to control the temperature	-	-	-	-
PC40. use the oxygen meter with mobile application support and alarm to monitor the level of dissolved oxygen in the nutrient solution and follow the recommended practices to maintain or adjust it	-	-	-	-
PC41. maintain the recommended air space between the nutrient solution and the roots of plants	-	-	-	-
PC42. clean the hydroponic system regularly using chlorine or other recommended treatment, and flush the system with clean water before replanting	-	-	-	-
PC43. use auto-cleaning systems for cleaning in large-scale hydroponic systems to save time and achieve better productivity	-	-	-	-
PC44. ensure the required macro and micronutrients are available to plants and crops according to different stages of their growth	-	-	-	-
PC45. maintain hygiene along with the recommended temperature and Relative Humidity (RH) at the site of hydroponic farming by following the recommended practices, such as the use of exhaust fans	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC46. carry out artificial pollination using blowers, and use mechanical vibrators to improve air quality within the protected hydroponic system structures	-	-	-	-
PC47. install artificial supporting structures and train tall-growing intermediate crop varieties such as tomatoes and cucumber, and crops bearing heavy produce such as bell pepper, eggplant, etc.	-	-	-	-
PC48. tie strings at the base of each plant with an appropriate material such as polythene	-	-	-	-
PC49. carry out pruning of plants using the appropriate tools and implements, when required	-	-	-	-
<i>Carry out irrigation and fertigation</i>	6	8	-	6
PC50. carry out irrigation of plants either manually or using the drip irrigation system, as per the irrigation schedule	-	-	-	-
PC51. determine the amount of fertilisers to be used for fertigation based on the selected crop, its stages of growth, and the type of selected hydroponics technique	-	-	-	-
PC52. select the relevant fertigation technique for use, as appropriate	-	-	-	-
PC53. mix the appropriate fertilisers with the daily water requirement and apply it manually or by using a fertigation system/nutrient tank, according to the selected fertigation technique	-	-	-	-
PC54. maintain the record of irrigation and fertigation of crop	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0822
NOS Name	Set up and maintain the hydroponic system and plants/ crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, gardening and urban farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2026
NSQC Clearance Date	31/03/2023

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AGR/N0846: Set up and maintain the aeroponic farm

Description

This OS unit is about setting up and maintaining an aeroponic farm to produce a variety of crops and plants.

Scope

The scope covers the following :

- Set up the aeroponic farm
- Maintain the aeroponic farm
- Optimise resource utilisation
- Perform waste management

Elements and Performance Criteria

Set up the aeroponic farm

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

- PC1.** prepare the root chamber for growing plants
- PC2.** ensure the growth chamber is light-proof, with good air circulation and an ability to hold humidity
- PC3.** set up a reservoir to store the nutrient spray solution
- PC4.** install a submersible pump and PVC pipes to deliver nutrient spray solution to the sprinklers
- PC5.** install sprinkler heads for spraying the nutrient spray solution on plants
- PC6.** prepare the nutrient solution maintaining the recommended ratio of water, nutrients and hormones required for the growth of selected plants
- PC7.** fill in the reservoir with the nutrient spray solution in the recommended quantity
- PC8.** set up an automatic controller to automate the release of nutrient spray solution
- PC9.** test the automatic controller to ensure it triggers the spray at the set interval of time
- PC10.** place the vegetative cuttings on the top of the growing chamber maintaining the stems of the plants in the root chamber

Maintain the aeroponic farm

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

- PC11.** identify the common repair and maintenance needs of the submersible pump, sprinklers, root chamber, etc.
- PC12.** carry out regular repair and maintenance and co-ordinate with an expert for complex repair and maintenance needs
- PC13.** apply the recommended disinfectant such as Hydrogen peroxide in the root chambers at appropriate intervals to prevent contamination
- PC14.** maintain the recommended temperature and humidity in the root chamber for the optimum growth of plants

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- PC15.** maintain the recommended quantity of various nutrients in the nutrient spray solution in an appropriate quantity
- PC16.** identify the signs of rotting, wilting, pests and disease in the plants and apply the appropriate treatment as per the prescription
- PC17.** maintain the record of any treatments and disinfectants used in the aeroponic farm

Optimise resource utilisation

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

- PC18.** optimise the usage of water, electricity and other resources in relevant tasks and processes
- PC19.** connect electrical tools and equipment safely and turn them off when not in use
- PC20.** plug water leakages to prevent its wastage

Perform waste management

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

- PC21.** segregate waste into appropriate categories
- PC22.** recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of preparing the root chamber for growing plants under the aeroponic system
- KU2.** the importance of ensuring the growth chamber is light-proof, with good air circulation and an ability to hold humidity
- KU3.** the process of setting up a nutrient spray solution reservoir, submersible pump, PVC pipes and sprinklers
- KU4.** the recommended ratio of water, nutrients and hormones to be maintained in the nutrient spray solution
- KU5.** the importance and process of setting up and testing an automatic controller to automate the release of nutrient spray solution
- KU6.** the process of planting different types of plants in an aeroponic farm
- KU7.** how to carry out common repair and maintenance of the submersible pump, sprinklers, root chamber, etc.
- KU8.** the importance and process of disinfecting the root chambers with the use of relevant disinfectant
- KU9.** the importance and process of maintaining the recommended temperature and humidity in the root chamber and recommended quantity of various nutrients in the nutrient spray solution
- KU10.** the signs of rotting, wilting, pests and disease in plants
- KU11.** the process of applying various treatments to plants to treat pests and disease
- KU12.** the benefits and ways of resource optimisation
- KU13.** the segregation of waste into appropriate categories
- KU14.** how to recycle and dispose different types of waste

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Generic Skills (GS)

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

- GS1.** write work-related notes and records
- GS2.** read the relevant guides and manuals
- GS3.** communicate professionally and politely
- GS4.** listen attentively to comprehend the information being shared by the speaker
- GS5.** plan and schedule daily activities to achieve work efficiency
- GS6.** identify possible disruptions to work and take preventive measures
- GS7.** take quick decisions to deal with any emergencies/ accidents
- GS8.** evaluate all possible solutions to a problem to select the best one

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Set up the aeroponic farm</i>	12	20	-	12
PC1. prepare the root chamber for growing plants	-	-	-	-
PC2. ensure the growth chamber is light-proof, with good air circulation and an ability to hold humidity	-	-	-	-
PC3. set up a reservoir to store the nutrient spray solution	-	-	-	-
PC4. install a submersible pump and PVC pipes to deliver nutrient spray solution to the sprinklers	-	-	-	-
PC5. install sprinkler heads for spraying the nutrient spray solution on plants	-	-	-	-
PC6. prepare the nutrient solution maintaining the recommended ratio of water, nutrients and hormones required for the growth of selected plants	-	-	-	-
PC7. fill in the reservoir with the nutrient spray solution in the recommended quantity	-	-	-	-
PC8. set up an automatic controller to automate the release of nutrient spray solution	-	-	-	-
PC9. test the automatic controller to ensure it triggers the spray at the set interval of time	-	-	-	-
PC10. place the vegetative cuttings on the top of the growing chamber maintaining the stems of the plants in the root chamber	-	-	-	-
<i>Maintain the aeroponic farm</i>	10	8	-	10
PC11. identify the common repair and maintenance needs of the submersible pump, sprinklers, root chamber, etc.	-	-	-	-
PC12. carry out regular repair and maintenance and co-ordinate with an expert for complex repair and maintenance needs	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. apply the recommended disinfectant such as Hydrogen peroxide in the root chambers at appropriate intervals to prevent contamination	-	-	-	-
PC14. maintain the recommended temperature and humidity in the root chamber for the optimum growth of plants	-	-	-	-
PC15. maintain the recommended quantity of various nutrients in the nutrient spray solution in an appropriate quantity	-	-	-	-
PC16. identify the signs of rotting, wilting, pests and disease in the plants and apply the appropriate treatment as per the prescription	-	-	-	-
PC17. maintain the record of any treatments and disinfectants used in the aeroponic farm	-	-	-	-
<i>Optimise resource utilisation</i>	4	6	-	4
PC18. optimise the usage of water, electricity and other resources in relevant tasks and processes	-	-	-	-
PC19. connect electrical tools and equipment safely and turn them off when not in use	-	-	-	-
PC20. plug water leakages to prevent its wastage	-	-	-	-
<i>Perform waste management</i>	4	6	-	4
PC21. segregate waste into appropriate categories	-	-	-	-
PC22. recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0846
NOS Name	Set up and maintain the aeroponic farm
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, Gardening and Urban Farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	31/03/2026
NSQC Clearance Date	31/03/2023

Qualification Pack

AGR/N0823: Carry out harvesting, post-harvest management and marketing activities

Description

This OS unit is about carrying out harvesting, post-harvest management and marketing of produce grown in hydroponic farming.

Scope

The scope covers the following :

- Carry out harvesting activities
- Perform post-harvest management
- Market the produce

Elements and Performance Criteria

Carry out harvesting activities

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

- PC1.** check the maturity of plants and crops for harvesting
- PC2.** carry out harvesting using the relevant tools and implements, ensuring minimum damage to crops/plants during harvesting
- PC3.** discard any damaged or disfigured plants
- PC4.** carry out sorting and grading on the basis of applicable parameters such as colour, appearance, ripeness, etc.
- PC5.** tag the harvested plants/ crop for identification
- PC6.** maintain the record of harvesting schedule and period of cultivation of crops/plants

Perform post-harvest management

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

- PC7.** store the harvested plants/crops in a dry storage area with the recommended temperature and humidity, ensuring hygiene and aeration
- PC8.** use humidity monitors to monitor the humidity

Market the produce

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

- PC9.** track and analyse the information related to the wholesale and retail price of the produce
- PC10.** identify the market and buyers of the produce such as e-trading platforms, cooperatives, local traders, exporters, etc.
- PC11.** coordinate and negotiate with the potential buyers to secure a profitable price for the produce
- PC12.** pack the produce in the appropriate packing material and label it with the relevant information
- PC13.** arrange an appropriate mode of transport for safe and hygienic delivery of produce, ensuring optimum aeration during transit

Qualification Pack

- PC14.** coordinate with the transporter for safe and timely delivery to the buyer
- PC15.** process the payment using the buyer-preferred e-payment method
- PC16.** maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer system
- PC17.** ensure compliance with the applicable regulations in the marketing of produce

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the relevant government schemes with the provision of subsidies for the promotion and marketing of hydroponic farming
- KU2.** the relevant state units and other financial institutions to be approached to avail the relevant government schemes
- KU3.** the appropriate marketing channels for selling the produce from hydroponic farms, and their constraints
- KU4.** the applicable procedures used for harvesting, storage, and logistics
- KU5.** the applicable harvesting schedules and techniques
- KU6.** the relevant aeration techniques
- KU7.** the applicable packaging techniques and labelling requirements
- KU8.** the signs of maturity in different types of crops and plants
- KU9.** use of the relevant tools, equipment and accessories for harvesting and collecting the produce
- KU10.** the recommended practices to protect the produce from damage and contamination
- KU11.** relevant parameters to sort and grade the harvested produce on
- KU12.** the importance of storing the harvested produce under the recommended temperature, humidity and hygienic conditions
- KU13.** how to identify, connect and negotiate with potential buyers
- KU14.** appropriate material to pack the produce and the relevant labelling requirements
- KU15.** use of different types of e-payment methods
- KU16.** the importance of maintaining the record of sales and payments
- KU17.** how to maintain manual and electronic records using the physical registers and the relevant computer application respectively
- KU18.** basic accounting practices such as calculating the expenditure and cost of production, and benefit-cost (B:C) ratio, etc.

Generic Skills (GS)

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

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

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- GS4.** communicate clearly and politely
- GS5.** plan and prioritise tasks for effective time management
- GS6.** take quick decisions to deal with any emergencies/ accidents or disruptions to work
- GS7.** co-ordinate with co-workers to achieve work objectives
- GS8.** evaluate all possible solutions to a problem to select the best one

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out harvesting activities</i>	12	14	-	12
PC1. check the maturity of plants and crops for harvesting	-	-	-	-
PC2. carry out harvesting using the relevant tools and implements, ensuring minimum damage to crops/plants during harvesting	-	-	-	-
PC3. discard any damaged or disfigured plants	-	-	-	-
PC4. carry out sorting and grading on the basis of applicable parameters such as colour, appearance, ripeness, etc.	-	-	-	-
PC5. tag the harvested plants/ crop for identification	-	-	-	-
PC6. maintain the record of harvesting schedule and period of cultivation of crops/plants	-	-	-	-
<i>Perform post-harvest management</i>	6	8	-	4
PC7. store the harvested plants/crops in a dry storage area with the recommended temperature and humidity, ensuring hygiene and aeration	-	-	-	-
PC8. use humidity monitors to monitor the humidity	-	-	-	-
<i>Market the produce</i>	12	18	-	14
PC9. track and analyse the information related to the wholesale and retail price of the produce	-	-	-	-
PC10. identify the market and buyers of the produce such as e-trading platforms, cooperatives, local traders, exporters, etc.	-	-	-	-
PC11. coordinate and negotiate with the potential buyers to secure a profitable price for the produce	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. pack the produce in the appropriate packing material and label it with the relevant information	-	-	-	-
PC13. arrange an appropriate mode of transport for safe and hygienic delivery of produce, ensuring optimum aeration during transit	-	-	-	-
PC14. coordinate with the transporter for safe and timely delivery to the buyer	-	-	-	-
PC15. process the payment using the buyer-preferred e-payment method	-	-	-	-
PC16. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer system	-	-	-	-
PC17. ensure compliance with the applicable regulations in the marketing of produce	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0823
NOS Name	Carry out harvesting, post-harvest management and marketing activities
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, gardening and urban farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	31/03/2022
Next Review Date	31/03/2026
NSQC Clearance Date	31/03/2023

Qualification Pack

AGR/N9903: Maintain health and safety at the workplace

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Maintain personal hygiene

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

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

Maintain clean and safe workplace

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

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

Administer appropriate emergency procedures

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

- GS1.** record the data as per the requirement
- GS2.** report problems to the appropriate personnel in a timely manner

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- GS3.** read instruction manual for hand tool and equipments
- GS4.** communicate clearly and effectively with co-workers, and other stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to personal hygiene and safety
- GS7.** schedule daily activities and draw up priorities
- GS8.** manage relationships with co-workers, manager and other stakeholders
- GS9.** assess situation and identify appropriate control measures

Qualification Pack

Assessment Criteria

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

Qualification Pack

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

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	NA
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

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

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

Constitutional values - Citizenship

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

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

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- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

Diversity & Inclusion

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

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

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PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

Qualification Pack

- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

Qualification Pack

Assessment Criteria

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

Qualification Pack

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

Qualification Pack

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

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	28/02/2026
NSQC Clearance Date	28/02/2023

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down the proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on the knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/optional set of NOS.
4. Individual assessment agencies will create unique question papers for the 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 these criteria.
6. To pass the Qualification Pack assessment, every trainee should score a minimum of 70% of % aggregate marks to successfully clear the assessment.

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

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0822.Set up and maintain the hydroponic system and plants/ crop	30	40	0	30	100	35
AGR/N0846.Set up and maintain the aeroponic farm	30	40	-	30	100	30
AGR/N0823.Carry out harvesting, post-harvest management and marketing activities	30	40	-	30	100	25
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	150	175	-	125	450	100

Qualification Pack

Acronyms

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

Qualification Pack

Glossary

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

Qualification Pack

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