

Qualification Pack



Flower Grower

Electives: Rose/ Gerbera/ Chrysanthemum/ Orchid/ Marigold

QP Code: AGR/Q0705

Version: 1.0

NSQF Level: 2

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AGR/Q0705: Flower Grower

Brief Job Description

A Flower Grower performs various activities in the process of cultivating flower crop such as selecting the site, preparing the field, propagating saplings in the nursery, transplanting the sapling, and maintaining the plants. The person is also responsible for carrying out harvesting, post-harvesting processing and marketing of the flower crop.

Personal Attributes

The individual must be physically fit to work for long durations. The person must have attention to detail and problem-solving skills along with the ability to read and write.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0732: Prepare for the cultivation of flower crops](#)
2. [AGR/N0733: Propagate the flower plant saplings](#)
3. [AGR/N0734: Harvest, transplant and maintain the saplings to grow flowers](#)
4. [AGR/N0735: Carryout harvesting and post-harvest management of flower crop](#)
5. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Electives(*mandatory to select at least one*):

Elective 1: Rose

The OS unit is about the cultivation of rose flowers

1. [AGR/N0736: Carryout cultivation of rose flowers](#)

Elective 2: Gerbera

The OS unit is about the cultivation of gerbera flowers

1. [AGR/N0737: Carryout cultivation of gerbera flowers](#)

Elective 3: Chrysanthemum

The OS unit is about the cultivation of chrysanthemum flowers.

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1. [AGR/N0738: Carryout cultivation of chrysanthemum flowers](#)

Elective 4: Orchid

The OS unit is about the cultivation of orchid flowers.

1. [AGR/N0739: Carryout cultivation of orchid flowers](#)

Elective 5: Marigold

The OS unit is about the cultivation of marigold flowers.

1. [AGR/N0740: Carryout cultivation of marigold flowers](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
Country	India
NSQF Level	2
Credits	15
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6113.0601
Minimum Educational Qualification & Experience	No formal education prescribed with NA of 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	29/09/2026
NSQC Approval Date	29/09/2023
Version	1.0

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Reference code on NQR	QG-02-AG-01011-2023-V1-ASCI
NQR Version	1

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AGR/N0732: Prepare for the cultivation of flower crops

Description

This OS unit is about preparing for the cultivation of flowers which includes the selection of site and flower varieties to be grown, arranging the required resources and field preparation.

Scope

The scope covers the following :

- Select the site and flower varieties to be grown
- Arrange the required resources
- Prepare the field for flower cultivation

Elements and Performance Criteria

Select the site and flower varieties to be grown

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

- PC1.** select a site with the recommended temperature, atmospheric humidity, sunlight exposure and rainfall, ensuring it is free from limiting factors such as strong winds and hailstorms
- PC2.** ensure the site has the availability of required inputs such as water, electricity and labour, and access to the relevant markets
- PC3.** ensure the soil is well-drained and there is no accumulation of water in the field
- PC4.** identify and select the relevant varieties of flower crop to be grown in the field as per the climatic conditions, soil type, market demand and profitability

Arrange the required resources

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

- PC5.** estimate the requirement of various resources such as seeds, seedlings, pesticides, fertilisers, tools, implements, equipment, etc.
- PC6.** identify and select a relevant vendor based on the quality and price of required resources available with them
- PC7.** purchase the necessary resources in the required quantity and store them appropriately

Prepare the field for flower cultivation

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

- PC8.** co-ordinate with an approved lab to identify the soil and water treatment requirements through testing
- PC9.** apply the appropriate treatment to the soil as per the lab's recommendation to improve its fertility, and adjust the pH and salinity levels
- PC10.** remove all roots, debris, and waste materials from the field
- PC11.** till the field to the required depth using the relevant farm machineries and mix sand in the soil in the prescribed quantity
- PC12.** level the field appropriately
- PC13.** carry out soil fumigation to prevent the growth of soil-borne pathogens

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- PC14.** prepare ridges and furrows of the recommended dimensions and apply the recommended fertilisers to them
- PC15.** prepare sunken, level or raised nursery bed according to the requirement for raising saplings
- PC16.** install an irrigation or fertigation system in the field
- PC17.** create drains in the field for the effective drainage of water
- PC18.** erect fences around the field to protect it from animals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for flower cultivation such as the recommended temperature, atmospheric humidity, sunlight exposure and rainfall, and various limiting factors such as strong winds and hailstorms
- KU2.** various inputs required for flower cultivation such as water, electricity, labour, seeds, seedlings, pesticides, fertilisers, implements, tools, implements, equipment, etc.
- KU3.** the soil requirements for growing different types of flowers
- KU4.** the criteria for selecting the relevant varieties of flower crop to be grown such as the climatic conditions, soil type, market demand and profitability
- KU5.** the process of procuring planting material and storing it appropriately
- KU6.** the importance of getting the soil tested through an approved lab to identify its treatment requirements
- KU7.** various treatment to be applied to the soil to improve its fertility, and adjust the pH, alkalinity and salinity levels
- KU8.** the process of clearing, tilling and levelling the field using the relevant farm machineries
- KU9.** the importance of mixing sand and farmyard manure in the soil
- KU10.** the process of carrying out soil fumigation to prevent the growth of soil-borne pathogens
- KU11.** the process of preparing ridges and furrows of the recommended dimensions
- KU12.** the process of preparing sunken, level or raised nursery bed to raise saplings
- KU13.** the process of installing an irrigation or fertigation system in the field
- KU14.** the importance of creating drains in the field for the effective drainage of water
- KU15.** the importance of erecting fences around the field to protect it from animals

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/ instructions being shared
- GS4.** communicate politely and professionally
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one

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- GS7.** co-ordinate with the co-workers to achieve the work objectives
- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies or accidents

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and flower varieties to be grown</i>	10	12	-	14
PC1. select a site with the recommended temperature, atmospheric humidity, sunlight exposure and rainfall, ensuring it is free from limiting factors such as strong winds and hailstorms	-	-	-	-
PC2. ensure the site has the availability of required inputs such as water, electricity and labour, and access to the relevant markets	-	-	-	-
PC3. ensure the soil is well-drained and there is no accumulation of water in the field	-	-	-	-
PC4. identify and select the relevant varieties of flower crop to be grown in the field as per the climatic conditions, soil type, market demand and profitability	-	-	-	-
<i>Arrange the required resources</i>	12	12	-	8
PC5. estimate the requirement of various resources such as seeds, seedlings, pesticides, fertilisers, tools, implements, equipment, etc.	-	-	-	-
PC6. identify and select a relevant vendor based on the quality and price of required resources available with them	-	-	-	-
PC7. purchase the necessary resources in the required quantity and store them appropriately	-	-	-	-
<i>Prepare the field for flower cultivation</i>	8	16	-	8
PC8. co-ordinate with an approved lab to identify the soil and water treatment requirements through testing	-	-	-	-
PC9. apply the appropriate treatment to the soil as per the lab's recommendation to improve its fertility, and adjust the pH and salinity levels	-	-	-	-
PC10. remove all roots, debris, and waste materials from the field	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. till the field to the required depth using the relevant farm machineries and mix sand in the soil in the prescribed quantity	-	-	-	-
PC12. level the field appropriately	-	-	-	-
PC13. carry out soil fumigation to prevent the growth of soil-borne pathogens	-	-	-	-
PC14. prepare ridges and furrows of the recommended dimensions and apply the recommended fertilisers to them	-	-	-	-
PC15. prepare sunken, level or raised nursery bed according to the requirement for raising saplings	-	-	-	-
PC16. install an irrigation or fertigation system in the field	-	-	-	-
PC17. create drains in the field for the effective drainage of water	-	-	-	-
PC18. erect fences around the field to protect it from animals	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0732
NOS Name	Prepare for the cultivation of flower crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

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AGR/N0733: Propagate the flower plant saplings

Description

This OS unit is about propagating flower plants in a nursery following a variety of propagation methods for the purpose of transplanting in the field.

Scope

The scope covers the following :

- Propagate saplings through seeds
- Propagate saplings through the cutting method
- Propagate saplings through the root division method
- Propagate saplings through the layering and budding method

Elements and Performance Criteria

Propagate saplings through seeds

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

- PC1.** sort out the poor-quality or damaged seeds
- PC2.** carry out the pre-sowing treatment of seeds
- PC3.** prepare the seedbed according to the local conditions
- PC4.** fill in the polybags and containers with the recommended quantity of treated soil
- PC5.** sow seeds in the seedbed, poly bags and containers at the recommended depth
- PC6.** apply the recommended quantity of water and organic or inorganic fertilisers on the sown seeds
- PC7.** maintain saplings in the seedbed/ polybags/ containers for the recommended period
- PC8.** harvest and acclimatise the saplings before transplanting

Propagate saplings through the cutting method

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

- PC9.** select a healthy plant to take extract cuttings
- PC10.** extract stems of the recommended specifications from the plant
- PC11.** use stems to propagate plants maintaining the required level of moisture and sunlight exposure
- PC12.** use rooting mixtures and plant growth hormones in appropriate quantities

Propagate saplings through the root division method

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

- PC13.** select a healthy and grown plant for root division
- PC14.** create root divisions from the plant's root
- PC15.** use the root divisions to propagate plants maintaining the recommended conditions

Propagate saplings through the layering and budding method

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

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- PC16.** select an appropriate method of layering according to the type of plant
- PC17.** cover the stem/ tip/ trunk of the plant with soil according to the selected method
- PC18.** apply the recommended quantity of water and fertilisers to support the growth of roots
- PC19.** prepare a rootstock for budding
- PC20.** cut a bud-stick from a healthy and disease-free plant with the required characteristics
- PC21.** prepare and use bud-scion to propagate plants
- PC22.** apply the approved pesticides and insecticides to protect the saplings from pests and diseases

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of sorting out poor-quality or damaged seeds
- KU2.** how to carry out pre-sowing treatment of seeds
- KU3.** the importance and process of preparing the seedbed according to the local conditions
- KU4.** the importance of using treated soil for raising saplings
- KU5.** the importance of sowing seeds in the seedbed, polybags and containers at the recommended depth
- KU6.** the recommended quantity of water and organic or inorganic fertilisers to be applied to the sown seeds
- KU7.** the recommended period for maintaining saplings in the seedbed, polybags or containers before being harvested
- KU8.** the importance and process of acclimatising saplings before transplanting them
- KU9.** the importance and process of extracting cuttings from a healthy plant and using them to propagate saplings
- KU10.** the importance of maintaining the required level of moisture and sunlight exposure for propagating saplings
- KU11.** the process of preparing root divisions of a healthy plant and using them for propagating saplings
- KU12.** the criteria for selecting a plant for extracting cuttings or roots
- KU13.** different ways of layering to propagate plants such as stem layering, tip layering and trunk layering
- KU14.** how to prepare a rootstock for budding
- KU15.** how to extract a bud-stick
- KU16.** how to prepare and use bud-scion to propagate plants
- KU17.** the approved pesticides and insecticides to be used on saplings to protect them from pests and diseases

Generic Skills (GS)

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

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- GS1.** maintain work-related records
- GS2.** read the health and safety instructions
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** identify possible disruptions to work and take appropriate preventive measures
- GS7.** take quick decisions to deal with workplace emergencies/ accidents
- GS8.** evaluate all possible solutions to a problem to select the best one
- GS9.** 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>Propagate saplings through seeds</i>	8	12	-	6
PC1. sort out the poor-quality or damaged seeds	-	-	-	-
PC2. carry out the pre-sowing treatment of seeds	-	-	-	-
PC3. prepare the seedbed according to the local conditions	-	-	-	-
PC4. fill in the polybags and containers with the recommended quantity of treated soil	-	-	-	-
PC5. sow seeds in the seedbed, poly bags and containers at the recommended depth	-	-	-	-
PC6. apply the recommended quantity of water and organic or inorganic fertilisers on the sown seeds	-	-	-	-
PC7. maintain saplings in the seedbed/ polybags/ containers for the recommended period	-	-	-	-
PC8. harvest and acclimatise the saplings before transplanting	-	-	-	-
<i>Propagate saplings through the cutting method</i>	6	8	-	4
PC9. select a healthy plant to take extract cuttings	-	-	-	-
PC10. extract stems of the recommended specifications from the plant	-	-	-	-
PC11. use stems to propagate plants maintaining the required level of moisture and sunlight exposure	-	-	-	-
PC12. use rooting mixtures and plant growth hormones in appropriate quantities	-	-	-	-
<i>Propagate saplings through the root division method</i>	4	6	-	4

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. select a healthy and grown plant for root division	-	-	-	-
PC14. create root divisions from the plant's root	-	-	-	-
PC15. use the root divisions to propagate plants maintaining the recommended conditions	-	-	-	-
<i>Propagate saplings through the layering and budding method</i>	12	14	-	16
PC16. select an appropriate method of layering according to the type of plant	-	-	-	-
PC17. cover the stem/ tip/ trunk of the plant with soil according to the selected method	-	-	-	-
PC18. apply the recommended quantity of water and fertilisers to support the growth of roots	-	-	-	-
PC19. prepare a rootstock for budding	-	-	-	-
PC20. cut a bud-stick from a healthy and disease-free plant with the required characteristics	-	-	-	-
PC21. prepare and use bud-scion to propagate plants	-	-	-	-
PC22. apply the approved pesticides and insecticides to protect the saplings from pests and diseases	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0733
NOS Name	Propagate the flower plant saplings
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

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AGR/N0734: Harvest, transplant and maintain the saplings to grow flowers

Description

This OS unit is about harvesting and transplanting saplings, and maintaining the flower plants. It also covers resource optimisation and waste management.

Scope

The scope covers the following :

- Harvest the saplings
- Transplant the saplings
- Maintain the flower plants and flowers
- Optimize resource utilization
- Perform waste management

Elements and Performance Criteria

Harvest the saplings

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

- PC1.** check the saplings in the nursery to determine their readiness for being harvested
- PC2.** arrange the required tools, implements and accessories for harvesting and collecting the saplings
- PC3.** harvest and collect the saplings in appropriate baskets or containers, ensuring no damage to them

Transplant the saplings

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

- PC4.** transplant the saplings in the field at the recommended depth and planting density, protecting them from damage
- PC5.** water the sapling with the recommended quantity and apply the recommended organic or inorganic fertilisers appropriately soon after transplanting
- PC6.** install support such as bamboo sticks to train and support the sapling
- PC7.** arrange to protect the saplings from strong winds and excessive heat or cold

Maintain the flower plants and flowers

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

- PC8.** apply the recommended organic and inorganic fertilisers in the prescribed quantity for the optimum growth of plants
- PC9.** water the plants with the recommended quantity and as per the irrigation schedule and prevailing weather conditions
- PC10.** follow the recommended measures to protect the plants and flowers from pests and disease
- PC11.** apply the recommended pesticides, insecticides or fungicides to treat the infected plants and flowers

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- PC12.** carry out pruning to remove dead and unwanted leaves and branches from plants
- PC13.** apply mulch in the field to prevent weed growth
- PC14.** carry out weeding to remove unwanted plants growing among the flower crop, ensuring no damage to the crop
- PC15.** drain out any water accumulated in the field to prevent root rot among the flower crop plants

Optimise resource utilisation

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

- PC16.** optimise the usage of water and other resources in various tasks and processes
- PC17.** plug water leakages to prevent its wastage

Perform waste management

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

- PC18.** optimise the usage of water and other resources in various tasks and processes
- PC19.** plug water leakages to prevent its wastage

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the indicators of maturity of a variety of saplings for being harvested
- KU2.** the relevant tools, implements and accessories required for harvesting and collecting saplings
- KU3.** the process of harvesting and collecting saplings, ensuring no damage to them
- KU4.** the importance of transplanting saplings at the recommended planting depth and density
- KU5.** the importance of watering saplings with the recommended quantity and applying appropriate organic or inorganic fertilisers soon after transplanting
- KU6.** the importance of installing support such as bamboo sticks to train and support the saplings
- KU7.** the importance of protecting saplings from strong winds and excessive heat or cold
- KU8.** the process of applying different types of organic and inorganic fertilisers to the soil for the optimum growth of plants
- KU9.** the importance of watering the plants with the recommended quantity, as per the irrigation schedule and prevailing weather conditions
- KU10.** various practices to be followed to protect the plants and flowers from pests and diseases
- KU11.** use of a variety of organic preparations, pesticides, insecticides and fungicides for treating the infected plants and flowers
- KU12.** the importance and process of pruning different types of flower plants
- KU13.** the use of mulch to prevent the growth of weed and improve soil fertility
- KU14.** the process of weeding out unwanted plants
- KU15.** the importance of draining out water accumulated in the field to prevent root rot among the flower crop plants
- KU16.** the benefits and different ways of resource optimisation
- KU17.** the criteria for segregating waste into appropriate categories
- KU18.** the importance of disposing the non-recyclable waste in an environment-friendly manner

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KU19. how to recycle different types of recyclable waste

KU20. the importance of practising inclusion at work and empathising with PwD

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/ instructions being shared

GS4. communicate clearly and politely

GS5. plan and prioritise tasks to ensure timely completion

GS6. evaluate all possible solutions to a problem to select the best one

GS7. co-ordinate with the co-workers to achieve the work objectives

GS8. identify possible disruptions to work and take appropriate preventive measures

GS9. take quick decisions to deal with workplace emergencies/ accidents

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the saplings</i>	8	12	-	6
PC1. check the saplings in the nursery to determine their readiness for being harvested	-	-	-	-
PC2. arrange the required tools, implements and accessories for harvesting and collecting the saplings	-	-	-	-
PC3. harvest and collect the saplings in appropriate baskets or containers, ensuring no damage to them	-	-	-	-
<i>Transplant the saplings</i>	8	8	-	8
PC4. transplant the saplings in the field at the recommended depth and planting density, protecting them from damage	-	-	-	-
PC5. water the sapling with the recommended quantity and apply the recommended organic or inorganic fertilisers appropriately soon after transplanting	-	-	-	-
PC6. install support such as bamboo sticks to train and support the sapling	-	-	-	-
PC7. arrange to protect the saplings from strong winds and excessive heat or cold	-	-	-	-
<i>Maintain the flower plants and flowers</i>	8	10	-	10
PC8. apply the recommended organic and inorganic fertilisers in the prescribed quantity for the optimum growth of plants	-	-	-	-
PC9. water the plants with the recommended quantity and as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC10. follow the recommended measures to protect the plants and flowers from pests and disease	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. apply the recommended pesticides, insecticides or fungicides to treat the infected plants and flowers	-	-	-	-
PC12. carry out pruning to remove dead and unwanted leaves and branches from plants	-	-	-	-
PC13. apply mulch in the field to prevent weed growth	-	-	-	-
PC14. carry out weeding to remove unwanted plants growing among the flower crop, ensuring no damage to the crop	-	-	-	-
PC15. drain out any water accumulated in the field to prevent root rot among the flower crop plants	-	-	-	-
<i>Optimise resource utilisation</i>	2	4	-	2
PC16. optimise the usage of water and other resources in various tasks and processes	-	-	-	-
PC17. plug water leakages to prevent its wastage	-	-	-	-
<i>Perform waste management</i>	4	6	-	4
PC18. optimise the usage of water and other resources in various tasks and processes	-	-	-	-
PC19. plug water leakages to prevent its wastage	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0734
NOS Name	Harvest, transplant and maintain the saplings to grow flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

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AGR/N0735: Carryout harvesting and post-harvest management of flower crop

Description

This OS unit is about carrying out harvesting and post-harvest management of flower crop.

Scope

The scope covers the following :

- Harvest the flower crop
- Carry out post-harvest management
- Prepare the storage area and store the flower crop
- Market the flower crop

Elements and Performance Criteria

Harvest the flower crop

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

- PC1.** check the flower crop to determine its readiness for being harvested
- PC2.** arrange the required tools, implements and accessories for harvesting flowers
- PC3.** harvest the flower crop following the recommended harvesting technique, ensuring no damage to flowers

Carry out post-harvest management

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

- PC4.** carry out precooling of flowers to remove the field heat
- PC5.** sort and grade the harvested flowers on the basis of applicable parameters such as appearance, size, stem thickness etc.

Prepare the storage area and store the flower crop

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

- PC6.** apply the relevant treatment in the storage area to remove any pests, insects and rodents
- PC7.** ensure the storage area is clean and well-ventilated before storing the harvested flowers
- PC8.** prepare and apply the preservative solution on flowers to protect their freshness
- PC9.** store the harvested flowers at the recommended temperature and humidity, ensuring no damage to them

Market the flower crop

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

- PC10.** identify the market demand and potential buyers of the harvested flowers
- PC11.** negotiate the price with the buyer
- PC12.** select the appropriate packing material such as bamboo baskets, gunny bags, poly pouches or corrugated boxes according to the type of flowers to be packed and distance to the target market or buyer
- PC13.** condition the flowers and pack them safely

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PC14. arrange an appropriate mode of transport to safely deliver flowers during transit

PC15. use the relevant e-payment method to process the payments

PC16. maintain the record of sales and payments

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. maturity indicators for varieties of flowers

KU2. various techniques for harvesting the flower crop

KU3. the criteria for sorting and grading the harvested flowers

KU4. the recommended temperature and humidity for storing flowers

KU5. the process of applying relevant treatment in the storage area to remove any pests, insects and rodents

KU6. the process of identifying the market demand for flower crop, connecting with potential buyers and negotiating with them

KU7. different types of packing material suitable for flowers

KU8. the appropriate mode of transport for safe and hygienic delivery of flowers

KU9. how to use different types of e-payment methods

KU10. the importance and process of maintaining the record of sales and payments

Generic Skills (GS)

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

GS1. write work-related notes

GS2. communicate politely and professionally

GS3. read the relevant literature to learn about new latest developments in the field of work

GS4. listen attentively to understand the information/ instructions being shared by the speaker

GS5. plan and prioritise tasks to ensure timely completion

GS6. co-ordinate with co-workers to achieve work objectives

GS7. evaluate all possible solutions to a problem to select the best one

GS8. identify possible disruptions to work and take appropriate preventive measures

GS9. take quick decisions to deal with workplace emergencies/ accidents

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the flower crop</i>	6	8	-	6
PC1. check the flower crop to determine its readiness for being harvested	-	-	-	-
PC2. arrange the required tools, implements and accessories for harvesting flowers	-	-	-	-
PC3. harvest the flower crop following the recommended harvesting technique, ensuring no damage to flowers	-	-	-	-
<i>Carry out post-harvest management</i>	4	6	-	8
PC4. carry out precooling of flowers to remove the field heat	-	-	-	-
PC5. sort and grade the harvested flowers on the basis of applicable parameters such as appearance, size, stem thickness etc.	-	-	-	-
<i>Prepare the storage area and store the flower crop</i>	8	8	-	8
PC6. apply the relevant treatment in the storage area to remove any pests, insects and rodents	-	-	-	-
PC7. ensure the storage area is clean and well-ventilated before storing the harvested flowers	-	-	-	-
PC8. prepare and apply the preservative solution on flowers to protect their freshness	-	-	-	-
PC9. store the harvested flowers at the recommended temperature and humidity, ensuring no damage to them	-	-	-	-
<i>Market the flower crop</i>	12	18	-	8
PC10. identify the market demand and potential buyers of the harvested flowers	-	-	-	-
PC11. negotiate the price with the buyer	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. select the appropriate packing material such as bamboo baskets, gunny bags, poly pouches or corrugated boxes according to the type of flowers to be packed and distance to the target market or buyer	-	-	-	-
PC13. condition the flowers and pack them safely	-	-	-	-
PC14. arrange an appropriate mode of transport to safely deliver flowers during transit	-	-	-	-
PC15. use the relevant e-payment method to process the payments	-	-	-	-
PC16. maintain the record of sales and payments	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0735
NOS Name	Carryout harvesting and post-harvest management of flower crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

Qualification Pack

DGT/VSQ/N0101: Employability Skills (30 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
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

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

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

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

PC4. speak with others using some basic English phrases or sentences

Communication Skills

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

PC5. follow good manners while communicating with others

PC6. work with others in a team

Qualification Pack

Diversity & Inclusion

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

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

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

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

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

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

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

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

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

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

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 basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

Qualification Pack

- KU10.** how to compute income and expenses
- KU11.** importance of maintaining safety and security in financial transactions
- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation 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. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	20	30	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Qualification Pack

AGR/N0736: Carryout cultivation of rose flowers

Description

This OS unit is about carrying out the cultivation of rose flower crop and covers various activities such as site selection, soil preparation, propagation and transplantation of saplings, along with maintenance of flowers plants. It also covers the harvesting and post-harvest management of rose flowers.

Scope

The scope covers the following :

- Select the site and prepare the soil
- Select the rose variety and propagation method
- Harvest and transplant the saplings
- Maintain the rose plants
- Carry out harvesting and post-harvest management

Elements and Performance Criteria

Select the site and prepare the soil

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

- PC1.** ensure the site selected for rose cultivation has the required temperature along with adequate exposure to sunlight
- PC2.** ensure the site does not experience heavy rainfall and waterlogging
- PC3.** ensure the soil is well-drained, loamy and rich in organic matters with the recommended alkalinity and pH levels
- PC4.** mix sand and farmyard manure in the soil in the quantity recommended for rose flower crop

Select the rose variety and propagation method

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

- PC5.** select the appropriate variety of rose to be grown according to the region
- PC6.** select an appropriate method for propagating rose saplings, such as seeding, budding, cutting, and propagate saplings in the nursery

Harvest and transplant the saplings

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

- PC7.** harvest the rose saplings from the nursery bed when they are ready for being transplanted
- PC8.** transplant rose saplings in the field at the recommended planting density, protecting them from damage
- PC9.** apply the recommended organic and inorganic fertilisers to the rose saplings appropriately and water them with the required quantity immediately after transplanting

Maintain the rose plants

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

- PC10.** check the rose plants regularly for signs of pests and disease
- PC11.** apply the recommended pesticide or insecticide as per the prescription

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- PC12.** carry out pruning of rose plants using the appropriate implements
- PC13.** carry out weeding regularly to remove unwanted plants growing among rose plants
- PC14.** water the rose plants with the recommended quantity as per the irrigation schedule
- PC15.** • apply the recommended organic and inorganic fertilisers in the prescribed quantity at
• appropriate intervals
- PC16.** carry out defoliation according to the rose variety to induce flowering

Carry out harvesting and post-harvest management

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

- PC17.** check the rose flowers to determine their readiness for being harvested
- PC18.** arrange the appropriate implements and accessories such as secateurs for harvesting the rose flowers
- PC19.** harvest rose flowers, ensuring no damage to the flowers and plants
- PC20.** collect the harvested rose flowers in appropriate baskets or crates
- PC21.** store the harvested rose flowers at the recommended temperature
- PC22.** sort and grade rose flowers on the basis of applicable parameters
- PC23.** prepare and apply the preservative solution on the rose flowers to preserve their freshness
- PC24.** bunch the rose flowers and pack them appropriately
- PC25.** maintain the manual and/ or electronic record of harvesting and processing of rose flowers using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for rose crop cultivation
- KU2.** the recommended soil characteristics required for the cultivation of rose
- KU3.** the criteria for selecting an appropriate variety of rose to be grown according to the region
- KU4.** different methods of propagating rose saplings, such as seeding, budding, cutting, etc.
- KU5.** the process of harvesting and transplanting rose saplings in the field, and the recommended planting density to be maintained
- KU6.** different signs of pests and disease infestation in rose plants and their recommended treatment
- KU7.** the importance and process of pruning rose plants
- KU8.** the importance and process of carrying out weeding to remove unwanted plants growing among rose plants
- KU9.** the recommended quantity of water to irrigate the rose plants and the applicable irrigation schedule
- KU10.** the recommended organic and inorganic fertilisers to be used for rose crop
- KU11.** the importance and process of defoliation to induce flowering in rose plants
- KU12.** the indicators of the readiness of rose flowers for being harvested
- KU13.** the use of appropriate implements such as secateurs for harvesting the rose flowers
- KU14.** the importance of ensuring no damage to flowers during harvesting

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- KU15.** the recommended temperature and humidity for storing the harvested rose flowers
- KU16.** the applicable criteria for sorting and grading the harvested rose flowers
- KU17.** the process of preparing and applying the preservative solution on rose flowers to preserve their freshness
- KU18.** the process of bunching and packing rose flowers
- KU19.** how to maintain various records manually and electronically using the physical registers and the relevant computer application

Generic Skills (GS)

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

- GS1.** write work-related notes
- GS2.** read the relevant guides and manuals
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** co-ordinate with the co-workers to achieve the work objectives
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies or accidents

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and prepare the soil</i>	6	8	-	6
PC1. ensure the site selected for rose cultivation has the required temperature along with adequate exposure to sunlight	-	-	-	-
PC2. ensure the site does not experience heavy rainfall and waterlogging	-	-	-	-
PC3. ensure the soil is well-drained, loamy and rich in organic matters with the recommended alkalinity and pH levels	-	-	-	-
PC4. mix sand and farmyard manure in the soil in the quantity recommended for rose flower crop	-	-	-	-
<i>Select the rose variety and propagation method</i>	6	4	-	6
PC5. select the appropriate variety of rose to be grown according to the region	-	-	-	-
PC6. select an appropriate method for propagating rose saplings, such as seeding, budding, cutting, and propagate saplings in the nursery	-	-	-	-
<i>Harvest and transplant the saplings</i>	4	6	-	4
PC7. harvest the rose saplings from the nursery bed when they are ready for being transplanted	-	-	-	-
PC8. transplant rose saplings in the field at the recommended planting density, protecting them from damage	-	-	-	-
PC9. apply the recommended organic and inorganic fertilisers to the rose saplings appropriately and water them with the required quantity immediately after transplanting	-	-	-	-
<i>Maintain the rose plants</i>	6	10	-	4
PC10. check the rose plants regularly for signs of pests and disease	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. apply the recommended pesticide or insecticide as per the prescription	-	-	-	-
PC12. carry out pruning of rose plants using the appropriate implements	-	-	-	-
PC13. carry out weeding regularly to remove unwanted plants growing among rose plants	-	-	-	-
PC14. water the rose plants with the recommended quantity as per the irrigation schedule	-	-	-	-
PC15. • apply the recommended organic and inorganic fertilisers in the prescribed quantity at • appropriate intervals	-	-	-	-
PC16. carry out defoliation according to the rose variety to induce flowering	-	-	-	-
<i>Carry out harvesting and post-harvest management</i>	8	12	-	10
PC17. check the rose flowers to determine their readiness for being harvested	-	-	-	-
PC18. arrange the appropriate implements and accessories such as secateurs for harvesting the rose flowers	-	-	-	-
PC19. harvest rose flowers, ensuring no damage to the flowers and plants	-	-	-	-
PC20. collect the harvested rose flowers in appropriate baskets or crates	-	-	-	-
PC21. store the harvested rose flowers at the recommended temperature	-	-	-	-
PC22. sort and grade rose flowers on the basis of applicable parameters	-	-	-	-
PC23. prepare and apply the preservative solution on the rose flowers to preserve their freshness	-	-	-	-
PC24. bunch the rose flowers and pack them appropriately	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. maintain the manual and/ or electronic record of harvesting and processing of rose flowers using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0736
NOS Name	Carryout cultivation of rose flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	2
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

Qualification Pack

AGR/N0737: Carryout cultivation of gerbera flowers

Description

This OS unit is about carrying out the cultivation of gerbera flower crop and covers various activities such as site selection, soil preparation, propagation and transplantation of saplings, along with maintenance of flowers plants. It also covers the harvesting and post-harvest management of gerbera flowers.

Scope

The scope covers the following :

- Select the site and prepare the soil
- Select the gerbera variety and propagation method
- Propagate, harvest and transplant the saplings
- Maintain the gerbera plants
- Carry out harvesting and post-harvest management

Elements and Performance Criteria

Select the site and prepare the soil

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

- PC1.** ensure the site selected for gerbera cultivation has the required temperature along with adequate shading and ventilation
- PC2.** ensure the soil is well-drained, rich in organic matters with the recommended alkalinity and pH levels
- PC3.** disinfect the soil with the recommended chemicals
- PC4.** apply plastic sheet cover on the soil and water it thoroughly after the recommended duration to wash away the disinfectants
- PC5.** mix sand and farmyard manure in the soil in the quantities recommended for the gerbera flower crop

Select the gerbera variety and propagation method

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

- PC6.** select the appropriate variety of gerbera to be grown according to the region
- PC7.** select an appropriate method for propagating gerbera saplings such as seeding, or cutting of side shoots and suckers

Propagate, harvest and transplant the saplings

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

- PC8.** propagate gerbera saplings in the required quantity in the nursery
- PC9.** protect the saplings from excessive heat and strong winds
- PC10.** harvest the gerbera saplings from the nursery bed when they are ready for being transplanted
- PC11.** transplant gerbera saplings in the field at the recommended planting density, protecting them from damage

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- PC12.** water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting

Maintain the gerbera plants

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

- PC13.** install support for the gerbera plants and train them, as required
- PC14.** water the gerbera plants with the recommended quantity as per the irrigation schedule
- PC15.** carry out weeding regularly to remove unwanted plants growing among gerbera plants
- PC16.** check the gerbera plants regularly for signs of pests and disease
- PC17.** apply the recommended pesticide or insecticide as per the prescription
- PC18.** carry out pruning of gerbera plants using the appropriate implements
- PC19.** apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals
- PC20.** rake the soil in the field at the recommended intervals to facilitate easy absorption of water and fertilisers, and to provide air to the roots

Carry out harvesting and post-harvest management

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

- PC21.** check the gerbera flowers to ensure they bloom completely before being harvested
- PC22.** arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the gerbera flowers
- PC23.** harvest and collect gerbera flowers ensuring no damage to them and plants
- PC24.** maintain the harvested gerbera flowers in fresh chlorinated water and store them at the recommended temperature and humidity
- PC25.** sort and grade gerbera flowers on the basis of applicable parameters
- PC26.** soak the gerbera flower stalks in Sodium Hypochlorite solution for the recommended duration to improve their vase life
- PC27.** prepare and apply the preservative solution to the gerbera flowers to preserve their freshness
- PC28.** bunch the gerbera flowers and pack them using poly pouches and carton boxes in layers
- PC29.** maintain the manual and/ or electronic record of harvesting and processing of gerbera flowers using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for gerbera crop cultivation such as temperature, shading, ventilation, etc.
- KU2.** the recommended soil characteristics required for the cultivation of gerbera
- KU3.** the criteria for selecting the appropriate variety of gerbera to be grown according to the region
- KU4.** the process of disinfecting the soil using the recommended chemicals
- KU5.** the importance of mixing sand and farmyard manure in the soil in the quantity recommended for gerbera flower crop

Qualification Pack

- KU6.** different methods of propagating gerbera saplings such as seeding, or cutting of side shoots and suckers
- KU7.** the importance of protecting the gerbera saplings from excessive heat and strong winds
- KU8.** the process of harvesting and transplanting gerbera saplings in the field, and the recommended planting density to be maintained
- KU9.** the immediate care to be given to saplings after being transplanted
- KU10.** the process of installing support for gerbera plants and training them
- KU11.** the recommended irrigation schedule for gerbera plants
- KU12.** the importance and process of weeding out unwanted plants growing among gerbera plants
- KU13.** different signs of pests and disease infestation in gerbera plants and their recommended treatment
- KU14.** the importance of pruning gerbera plants at appropriate intervals
- KU15.** the recommended organic and inorganic fertilisers to be used for gerbera crop
- KU16.** the importance and process of raking the soil in the field to facilitate easy absorption of water and fertilisers, and providing air to the roots
- KU17.** the indicators of the readiness of gerbera flowers for being harvested
- KU18.** the use of appropriate implements such as secateurs for harvesting the gerbera flowers
- KU19.** the importance of ensuring no damage to flowers during harvesting
- KU20.** the importance of maintaining the harvested gerbera flowers in fresh chlorinated water and storing them at the recommended temperature and humidity
- KU21.** the applicable criteria for sorting and grading the harvested gerbera flowers
- KU22.** the process of preparing and applying the preservative solution on gerbera flowers to preserve their freshness
- KU23.** the practice of soaking gerbera flower stalks in Sodium Hypochlorite solution for the recommended duration to improve their vase life
- KU24.** the process of bunching and packing gerbera flowers in appropriate packing material such as poly pouches and carton boxes
- KU25.** how to maintain various records manually and electronically using the physical registers and the relevant computer application

Generic Skills (GS)

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

- GS1.** maintain work-related records
- GS2.** read and follow the health and safety instructions
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** identify possible disruptions to work and take appropriate preventive measures
- GS7.** take quick decisions to deal with workplace emergencies/ accidents
- GS8.** evaluate all possible solutions to a problem to select the best one
- GS9.** co-ordinate with the co-workers to achieve work objectives

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and prepare the soil</i>	8	10	-	6
PC1. ensure the site selected for gerbera cultivation has the required temperature along with adequate shading and ventilation	-	-	-	-
PC2. ensure the soil is well-drained, rich in organic matters with the recommended alkalinity and pH levels	-	-	-	-
PC3. disinfect the soil with the recommended chemicals	-	-	-	-
PC4. apply plastic sheet cover on the soil and water it thoroughly after the recommended duration to wash away the disinfectants	-	-	-	-
PC5. mix sand and farmyard manure in the soil in the quantities recommended for the gerbera flower crop	-	-	-	-
<i>Select the gerbera variety and propagation method</i>	2	4	-	2
PC6. select the appropriate variety of gerbera to be grown according to the region	-	-	-	-
PC7. select an appropriate method for propagating gerbera saplings such as seeding, or cutting of side shoots and suckers	-	-	-	-
<i>Propagate, harvest and transplant the saplings</i>	6	8	-	8
PC8. propagate gerbera saplings in the required quantity in the nursery	-	-	-	-
PC9. protect the saplings from excessive heat and strong winds	-	-	-	-
PC10. harvest the gerbera saplings from the nursery bed when they are ready for being transplanted	-	-	-	-
PC11. transplant gerbera saplings in the field at the recommended planting density, protecting them from damage	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting	-	-	-	-
<i>Maintain the gerbera plants</i>	4	6	-	6
PC13. install support for the gerbera plants and train them, as required	-	-	-	-
PC14. water the gerbera plants with the recommended quantity as per the irrigation schedule	-	-	-	-
PC15. carry out weeding regularly to remove unwanted plants growing among gerbera plants	-	-	-	-
PC16. check the gerbera plants regularly for signs of pests and disease	-	-	-	-
PC17. apply the recommended pesticide or insecticide as per the prescription	-	-	-	-
PC18. carry out pruning of gerbera plants using the appropriate implements	-	-	-	-
PC19. apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals	-	-	-	-
PC20. rake the soil in the field at the recommended intervals to facilitate easy absorption of water and fertilisers, and to provide air to the roots	-	-	-	-
<i>Carry out harvesting and post-harvest management</i>	10	12	-	8
PC21. check the gerbera flowers to ensure they bloom completely before being harvested	-	-	-	-
PC22. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the gerbera flowers	-	-	-	-
PC23. harvest and collect gerbera flowers ensuring no damage to them and plants	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. maintain the harvested gerbera flowers in fresh chlorinated water and store them at the recommended temperature and humidity	-	-	-	-
PC25. sort and grade gerbera flowers on the basis of applicable parameters	-	-	-	-
PC26. soak the gerbera flower stalks in Sodium Hypochlorite solution for the recommended duration to improve their vase life	-	-	-	-
PC27. prepare and apply the preservative solution to the gerbera flowers to preserve their freshness	-	-	-	-
PC28. bunch the gerbera flowers and pack them using poly pouches and carton boxes in layers	-	-	-	-
PC29. maintain the manual and/ or electronic record of harvesting and processing of gerbera flowers using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0737
NOS Name	Carryout cultivation of gerbera flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	2
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

Qualification Pack

AGR/N0738: Carryout cultivation of chrysanthemum flowers

Description

This OS unit is about carrying out the cultivation of chrysanthemum flower crop and covers various activities such as site selection, field preparation, propagation and transplantation of saplings, along with maintenance of flowers plants. It also covers the harvesting and post-harvest management of chrysanthemum flowers.

Scope

The scope covers the following :

- Select the site and prepare the field
- Select the chrysanthemum variety and propagation method
- Propagate, harvest and transplant the saplings
- Maintain the chrysanthemum plants
- Carry out harvesting and post-harvest management

Elements and Performance Criteria

Select the site and prepare the field

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

- PC1.** select a site for chrysanthemum cultivation with the required temperature, relative humidity along with adequate exposure to sunlight for the optimum growth of plants
- PC2.** ensure the site does not experience heavy rainfall and waterlogging
- PC3.** ensure the soil is well-drained, loamy and rich in organic matters with the recommended alkalinity and pH levels
- PC4.** carry out ploughing and harrowing in the field using the relevant farm machineries and apply farmyard manure in the recommended quantity
- PC5.** apply the recommended chemicals to the soil as per the prescription to disinfect the soil
- PC6.** apply plastic sheet cover on the soil and water it thoroughly after the recommended duration to wash away the disinfectants
- PC7.** install the appropriate irrigation or fertigation system in the field
- PC8.** create drains in the field for effective drainage of water

Select the chrysanthemum variety and propagation method

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

- PC9.** select the appropriate variety of chrysanthemum to be grown according to the region and climate
- PC10.** select an appropriate method for propagating chrysanthemum saplings, such as terminal cutting or suckers

Propagate, harvest and transplant the saplings

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

- PC11.** propagate chrysanthemum saplings in the required quantity in the nursery
- PC12.** protect the saplings from strong winds, and excessive heat and cold

Qualification Pack

- PC13.** harvest the chrysanthemum saplings from the nursery bed when they are ready for being transplanted
- PC14.** transplant chrysanthemum saplings in the field at the recommended planting density, protecting them from damage
- PC15.** water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting

Maintain the chrysanthemum plants

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

- PC16.** apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals
- PC17.** use the recommended growth regulators as per the requirement
- PC18.** check the chrysanthemum plants regularly for signs of pests and disease
- PC19.** apply the recommended pesticide or insecticide as per the prescription
- PC20.** water the chrysanthemum plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions
- PC21.** drain out any water accumulated in the field
- PC22.** carry out pinching to induce the growth of lateral branches and install appropriate support to train the plants
- PC23.** carry out disbudding, removing buds from the stems of plants and leaving only terminal buds to ensure the growth of large blooms
- PC24.** carry out pruning of chrysanthemum plants using the appropriate implements at regular intervals, removing the side suckers
- PC25.** carry out weeding at the recommended intervals to remove unwanted plants growing among the chrysanthemum plants

Carry out harvesting and post-harvest management

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

- PC26.** check the chrysanthemum flowers to ensure their maturity for being harvested
- PC27.** arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the chrysanthemum flowers
- PC28.** harvest and collect chrysanthemum flowers ensuring no damage to them and plants
- PC29.** store the harvested chrysanthemum flowers at the recommended temperature and humidity
- PC30.** sort and grade chrysanthemum flowers on the basis of applicable parameters
- PC31.** prepare and apply the preservative solution on the chrysanthemum flowers to preserve their freshness
- PC32.** bunch the chrysanthemum flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags
- PC33.** maintain the manual and/ or electronic record of harvesting and processing of chrysanthemum flowers using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

Qualification Pack

- KU1.** the criteria for selecting a site for chrysanthemum crop cultivation such as temperature, relative humidity, adequate exposure to sunlight, etc.
- KU2.** the recommended soil characteristics required for the cultivation of chrysanthemum
- KU3.** the criteria for selecting the appropriate variety of chrysanthemum to be grown according to the region
- KU4.** the process of disinfecting the soil using the recommended chemicals
- KU5.** the importance of mixing sand and farmyard manure in the soil in the quantity recommended for chrysanthemum flower crop
- KU6.** different methods of propagating chrysanthemum saplings such as terminal cutting or suckers
- KU7.** the importance of protecting the chrysanthemum saplings from excessive heat and strong winds
- KU8.** the process of harvesting and transplanting chrysanthemum saplings in the field, and the recommended planting density to be maintained
- KU9.** the immediate care to be given to saplings after being transplanted
- KU10.** the process of installing support for chrysanthemum plants and training them
- KU11.** the recommended irrigation schedule for chrysanthemum plants
- KU12.** the practice of pinching to induce the growth of lateral branches and installing appropriate support to train the plants
- KU13.** the practice of disbudding to achieve large blooms
- KU14.** the importance and process of weeding out unwanted plants growing among chrysanthemum plants
- KU15.** different signs of pests and disease infestation in chrysanthemum plants and their recommended treatment
- KU16.** the importance of pruning chrysanthemum plants at appropriate intervals
- KU17.** the recommended organic and inorganic fertilisers to be used for chrysanthemum crop
- KU18.** the importance and process of raking the soil in the field to facilitate easy absorption of water and fertilisers, and providing air to the roots
- KU19.** the indicators of the readiness of chrysanthemum flowers for being harvested
- KU20.** the use of appropriate implements such as secateurs for harvesting the chrysanthemum flowers
- KU21.** the importance of ensuring no damage to flowers during harvesting
- KU22.** the importance of maintaining the harvested chrysanthemum flowers in fresh chlorinated water and storing them at the recommended temperature and humidity
- KU23.** the applicable criteria for sorting and grading the harvested chrysanthemum flowers
- KU24.** the process of preparing and applying the preservative solution on chrysanthemum flowers to preserve their freshness
- KU25.** the process of bunching and packing chrysanthemum flowers in appropriate packing material such as bamboo baskets or gunny bags
- KU26.** how to maintain various records manually and electronically using the physical registers and the relevant computer application

Generic Skills (GS)

Qualification Pack

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

- GS1.** maintain work-related records
- GS2.** read the health and safety instructions
- GS3.** listen attentively to understand the information/ instructions being shared
- GS4.** communicate clearly and politely
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** identify possible disruptions to work and take appropriate preventive measures
- GS7.** take quick decisions to deal with workplace emergencies/ accidents
- GS8.** evaluate all possible solutions to a problem to select the best one
- GS9.** co-ordinate with the co-workers to achieve the work objectives

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and prepare the field</i>	8	10	-	8
PC1. select a site for chrysanthemum cultivation with the required temperature, relative humidity along with adequate exposure to sunlight for the optimum growth of plants	-	-	-	-
PC2. ensure the site does not experience heavy rainfall and waterlogging	-	-	-	-
PC3. ensure the soil is well-drained, loamy and rich in organic matters with the recommended alkalinity and pH levels	-	-	-	-
PC4. carry out ploughing and harrowing in the field using the relevant farm machineries and apply farmyard manure in the recommended quantity	-	-	-	-
PC5. apply the recommended chemicals to the soil as per the prescription to disinfect the soil	-	-	-	-
PC6. apply plastic sheet cover on the soil and water it thoroughly after the recommended duration to wash away the disinfectants	-	-	-	-
PC7. install the appropriate irrigation or fertigation system in the field	-	-	-	-
PC8. create drains in the field for effective drainage of water	-	-	-	-
<i>Select the chrysanthemum variety and propagation method</i>	2	4	-	2
PC9. select the appropriate variety of chrysanthemum to be grown according to the region and climate	-	-	-	-
PC10. select an appropriate method for propagating chrysanthemum saplings, such as terminal cutting or suckers	-	-	-	-
<i>Propagate, harvest and transplant the saplings</i>	4	6	-	4
PC11. propagate chrysanthemum saplings in the required quantity in the nursery	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. protect the saplings from strong winds, and excessive heat and cold	-	-	-	-
PC13. harvest the chrysanthemum saplings from the nursery bed when they are ready for being transplanted	-	-	-	-
PC14. transplant chrysanthemum saplings in the field at the recommended planting density, protecting them from damage	-	-	-	-
PC15. water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting	-	-	-	-
<i>Maintain the chrysanthemum plants</i>	8	8	-	4
PC16. apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals	-	-	-	-
PC17. use the recommended growth regulators as per the requirement	-	-	-	-
PC18. check the chrysanthemum plants regularly for signs of pests and disease	-	-	-	-
PC19. apply the recommended pesticide or insecticide as per the prescription	-	-	-	-
PC20. water the chrysanthemum plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC21. drain out any water accumulated in the field	-	-	-	-
PC22. carry out pinching to induce the growth of lateral branches and install appropriate support to train the plants	-	-	-	-
PC23. carry out disbudding, removing buds from the stems of plants and leaving only terminal buds to ensure the growth of large blooms	-	-	-	-
PC24. carry out pruning of chrysanthemum plants using the appropriate implements at regular intervals, removing the side suckers	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. carry out weeding at the recommended intervals to remove unwanted plants growing among the chrysanthemum plants	-	-	-	-
<i>Carry out harvesting and post-harvest management</i>	8	12	-	12
PC26. check the chrysanthemum flowers to ensure their maturity for being harvested	-	-	-	-
PC27. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the chrysanthemum flowers	-	-	-	-
PC28. harvest and collect chrysanthemum flowers ensuring no damage to them and plants	-	-	-	-
PC29. store the harvested chrysanthemum flowers at the recommended temperature and humidity	-	-	-	-
PC30. sort and grade chrysanthemum flowers on the basis of applicable parameters	-	-	-	-
PC31. prepare and apply the preservative solution on the chrysanthemum flowers to preserve their freshness	-	-	-	-
PC32. bunch the chrysanthemum flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags	-	-	-	-
PC33. maintain the manual and/ or electronic record of harvesting and processing of chrysanthemum flowers using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0738
NOS Name	Carryout cultivation of chrysanthemum flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	2
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

Qualification Pack

AGR/N0739: Carryout cultivation of orchid flowers

Description

This OS unit is about carrying out the cultivation of orchid flower crop and covers various activities such as site selection, field preparation, propagation and transplantation of saplings, along with the maintenance of flowers plants. It also covers the harvesting and post-harvest management of orchid flowers.

Scope

The scope covers the following :

- Select the site and prepare for orchid flower cultivation
- Propagate orchid plants
- Maintain the orchid plants
- Carry out harvesting and post-harvest management

Elements and Performance Criteria

Select the site and prepare for orchid flower cultivation

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

- PC1.** select a site for orchid cultivation with moderate temperature and humidity along with good ventilation
- PC2.** ensure the site does not experience extended periods of sunlight exposure and strong winds
- PC3.** arrange the required materials for growing orchids such as coconut husk, charcoal, broken pieces of bricks and tiles to prepare the growing media; seeds, perforated earthen pots; foliar spray solution; growth regulators, etc.
- PC4.** select the appropriate variety of orchid to be grown according to the region and climate
- PC5.** prepare a green shade net house or polyhouse to provide sunlight to orchid flower plants through shades

Propagate orchid plants

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

- PC6.** prepare the growth media using the recommended materials and fill in the pots with its recommended quantity
- PC7.** ensure the pots have drainage holes for draining out excess water
- PC8.** plant the orchid seeds in pots at the recommended depth and density, and water them with the recommended quantity
- PC9.** maintain the pots at the recommended temperature and humidity to induce the germination of seeds

Maintain the orchid plants

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

- PC10.** install support in the pots such as bamboo sticks to help the orchid plants grow vertically
- PC11.** protect the orchid plants from strong winds, and direct sunlight
- PC12.** apply the recommended organic and inorganic fertilisers to orchid plants in the prescribed quantity at appropriate intervals

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- PC13.** use the recommended growth regulators as per the requirement
- PC14.** check the orchid plants regularly for signs of pests and disease
- PC15.** spray the recommended pesticide or insecticide on orchid plants as per the prescription
- PC16.** water the orchid plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions
- PC17.** ensure no accumulation of water in the pots to prevent root rot
- PC18.** remove the dead leaves from orchid plants and weeds from the pots
- PC19.** maintain the orchid plants in moderate temperature, recommended humidity and good air circulation for their survival and optimum growth

Carry out harvesting and post-harvest management

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

- PC20.** check the orchid flowers to ensure their maturity for being harvested
- PC21.** arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the orchid flowers
- PC22.** harvest the orchid flowers with or without stalk as per the requirement and collect them in baskets or crates, ensuring no damage to the flowers
- PC23.** sort and grade the harvested orchid flowers on the basis of applicable parameters
- PC24.** prepare and apply the preservative solution on the orchid flowers to preserve their freshness
- PC25.** store the harvested orchid flowers at the recommended temperature and humidity
- PC26.** bunch the orchid flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags
- PC27.** maintain the record of harvesting and processing of orchid flowers

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for orchid crop cultivation such as moderate temperature and humidity along with good ventilation, and moderate sunlight exposure, etc.
- KU2.** various inputs required for orchid flower cultivation such as coconut husk, charcoal, broken pieces of bricks and tiles to prepare the growing media, seeds, perforated earthen pots, foliar spray solution, growth regulators, etc.
- KU3.** the criteria for selecting the appropriate variety of orchid to be grown according to the region
- KU4.** the process of preparing a green shade net house or polyhouse for orchid flower cultivation
- KU5.** the process of preparing the growth media for the cultivation of orchid flowers
- KU6.** the importance of ensuring drainage holes in the pots for the drainage of excess water
- KU7.** the recommended depth and density for planting orchid seeds in pots
- KU8.** appropriate temperature and humidity to be maintained to induce the germination of orchid seeds
- KU9.** the process of installing support in the pots to help the orchid plants grow vertically
- KU10.** the importance of protecting the orchid plants from strong winds and direct sunlight

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- KU11.** their prescribed quantity of recommended organic and inorganic fertilisers to be used with orchid plants
- KU12.** use of recommended growth regulators
- KU13.** various signs of pests and disease in orchid plants
- KU14.** the process of spraying the recommended pesticide or insecticide on orchid plants as per the prescription
- KU15.** water requirements of orchid plants and the recommended irrigation schedule
- KU16.** importance of ensuring no accumulation of water in the orchid plant pots to prevent root rot
- KU17.** the importance of removing the dead leaves from orchid plants and weeds from the pots
- KU18.** the importance of maintaining orchid plants in moderate temperature, recommended humidity and good air circulation
- KU19.** the indicators of the readiness of orchid flowers for being harvested
- KU20.** the use of appropriate implements such as secateurs to harvest orchid flowers with or without stalk, ensuring no damage to flowers and stalk
- KU21.** the applicable criteria for sorting and grading the harvested orchid flowers
- KU22.** the process of preparing and applying the preservative solution on orchid flowers to preserve their freshness
- KU23.** the practice of soaking orchid flower stalks in Sodium Hypochlorite solution for the recommended duration to improve their vase life
- KU24.** the process of bunching and packing orchid flowers in appropriate packing material such as bamboo baskets and gunny bags

Generic Skills (GS)

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

- GS1.** write work-related notes and maintain relevant records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate politely and professionally
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** evaluate all possible solutions to a problem to select the best one
- GS7.** co-ordinate with the co-workers to achieve the work objectives
- GS8.** identify possible disruptions to work and take appropriate preventive measures
- GS9.** take quick decisions to deal with workplace emergencies or accidents

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and prepare for orchid flower cultivation</i>	6	8	-	8
PC1. select a site for orchid cultivation with moderate temperature and humidity along with good ventilation	-	-	-	-
PC2. ensure the site does not experience extended periods of sunlight exposure and strong winds	-	-	-	-
PC3. arrange the required materials for growing orchids such as coconut husk, charcoal, broken pieces of bricks and tiles to prepare the growing media; seeds, perforated earthen pots; foliar spray solution; growth regulators, etc.	-	-	-	-
PC4. select the appropriate variety of orchid to be grown according to the region and climate	-	-	-	-
PC5. prepare a green shade net house or polyhouse to provide sunlight to orchid flower plants through shades	-	-	-	-
<i>Propagate orchid plants</i>	4	6	-	4
PC6. prepare the growth media using the recommended materials and fill in the pots with its recommended quantity	-	-	-	-
PC7. ensure the pots have drainage holes for draining out excess water	-	-	-	-
PC8. plant the orchid seeds in pots at the recommended depth and density, and water them with the recommended quantity	-	-	-	-
PC9. maintain the pots at the recommended temperature and humidity to induce the germination of seeds	-	-	-	-
<i>Maintain the orchid plants</i>	10	12	-	8
PC10. install support in the pots such as bamboo sticks to help the orchid plants grow vertically	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. protect the orchid plants from strong winds, and direct sunlight	-	-	-	-
PC12. apply the recommended organic and inorganic fertilisers to orchid plants in the prescribed quantity at appropriate intervals	-	-	-	-
PC13. use the recommended growth regulators as per the requirement	-	-	-	-
PC14. check the orchid plants regularly for signs of pests and disease	-	-	-	-
PC15. spray the recommended pesticide or insecticide on orchid plants as per the prescription	-	-	-	-
PC16. water the orchid plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC17. ensure no accumulation of water in the pots to prevent root rot	-	-	-	-
PC18. remove the dead leaves from orchid plants and weeds from the pots	-	-	-	-
PC19. maintain the orchid plants in moderate temperature, recommended humidity and good air circulation for their survival and optimum growth	-	-	-	-
<i>Carry out harvesting and post-harvest management</i>	10	14	-	10
PC20. check the orchid flowers to ensure their maturity for being harvested	-	-	-	-
PC21. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the orchid flowers	-	-	-	-
PC22. harvest the orchid flowers with or without stalk as per the requirement and collect them in baskets or crates, ensuring no damage to the flowers	-	-	-	-
PC23. sort and grade the harvested orchid flowers on the basis of applicable parameters	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. prepare and apply the preservative solution on the orchid flowers to preserve their freshness	-	-	-	-
PC25. store the harvested orchid flowers at the recommended temperature and humidity	-	-	-	-
PC26. bunch the orchid flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags	-	-	-	-
PC27. maintain the record of harvesting and processing of orchid flowers	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0739
NOS Name	Carryout cultivation of orchid flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	2
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

Qualification Pack

AGR/N0740: Carryout cultivation of marigold flowers

Description

This OS unit is about carrying out the cultivation of marigold flower crop and covers various activities such as site selection, field preparation, propagation and transplantation of saplings, along with the maintenance of flowers plants. It also covers the harvesting and post-harvest management of marigold flowers.

Scope

The scope covers the following :

- Select the site and prepare the field
- Select the marigold variety and propagation method
- Propagate, harvest and transplant the saplings
- Maintain the marigold plants
- Carry out harvesting and post-harvest management

Elements and Performance Criteria

Select the site and prepare the field

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

- PC1.** select a site for marigold cultivation with the required temperature and exposure to the sunlight for the optimum growth of plants
- PC2.** ensure the site does not experience waterlogging
- PC3.** ensure the soil is well-drained and loamy with the recommended alkalinity, salinity, acidity and pH levels
- PC4.** carry out ploughing and harrowing in the field, and create ridges and furrows of recommended dimensions
- PC5.** apply farmyard manure in the field in the recommended quantity
- PC6.** disinfect the soil using the recommended chemicals as per the prescription
- PC7.** install the appropriate irrigation or fertigation system in the field
- PC8.** create drains in the field for effective drainage of water

Select the marigold variety and propagation method

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

- PC9.** select the appropriate variety of marigold to be grown according to the region and climate
- PC10.** select an appropriate propagation method for growing marigold saplings such as terminal seeding or cuttings

Propagate, harvest and transplant the saplings

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

- PC11.** treat the marigold seeds with the recommended pesticide or insecticide before sowing
- PC12.** propagate marigold saplings in the required quantity in the nursery, protecting them from strong winds, and excessive heat and cold

Qualification Pack

- PC13.** maintain the recommended level of moisture in the nursery bed for the optimum growth of saplings
- PC14.** harvest the marigold saplings from the nursery bed they when are ready for being transplanted
- PC15.** transplant marigold saplings in the field at the recommended depth and planting density, protecting them from damage
- PC16.** press soil around the root zone to avoid the formation of air pockets
- PC17.** water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting

Maintain the marigold plants

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

- PC18.** apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals
- PC19.** check the marigold plants regularly for signs of pests and disease
- PC20.** apply the recommended pesticide or insecticide as per the prescription
- PC21.** water the marigold plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions
- PC22.** drain out any water accumulated in the field
- PC23.** carry out pinching to induce the growth of lateral branches
- PC24.** remove dead leaves and branches from marigold plants
- PC25.** carry out weeding at the recommended intervals to remove unwanted plants growing among the marigold plants

Carry out harvesting and post-harvest management

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

- PC26.** check the marigold flowers to ensure their maturity for being harvested
- PC27.** arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the marigold flowers
- PC28.** irrigate the marigold plants before harvesting
- PC29.** harvest the marigold flowers with or without stalk as per the market requirements, ensuring no damage to flowers and plants
- PC30.** collect the harvested flowers in appropriate baskets or containers and store them at the recommended temperature and humidity
- PC31.** sort and grade marigold flowers on the basis of applicable parameters
- PC32.** pack the harvested marigold flowers in gunny bags or bamboo baskets
- PC33.** maintain the record of harvesting and processing of marigold flowers

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a site for marigold crop cultivation such as recommended temperature, exposure to the sunlight and not prone to waterlogging

Qualification Pack

- KU2.** the characteristics of soil suitable for marigold cultivation such as the recommended alkalinity, salinity, acidity and pH levels
- KU3.** the process of carrying out ploughing and harrowing in the field and creating ridges and furrows of the recommended dimensions
- KU4.** the process of disinfecting the soil using the recommended chemicals
- KU5.** the process of installing an irrigation or fertigation system
- KU6.** the importance of creating drains in the field for effective drainage of water
- KU7.** the criteria for selecting an appropriate variety of marigold to be grown according to the region
- KU8.** the importance of mixing sand and farmyard manure in the soil in the quantity recommended for marigold flower crop
- KU9.** the criteria for selecting an appropriate variety of marigold to be grown according to the region
- KU10.** different methods of propagating marigold saplings such as terminal seeding or cuttings
- KU11.** the process of treating the marigold seeds with the recommended pesticide or insecticide before sowing
- KU12.** the importance of protecting the marigold saplings from excessive heat/ cold and strong winds
- KU13.** the importance of maintaining the recommended moisture levels in the nursery bed for optimum growth of marigold saplings
- KU14.** the process of harvesting and transplanting marigold saplings in the field, and the recommended planting density to be maintained
- KU15.** immediate care to be given to saplings after being transplanted
- KU16.** the recommended irrigation schedule for marigold plants
- KU17.** the practice of pinching to induce the growth of lateral branches and installing appropriate support to train the plants
- KU18.** the importance and process of weeding out unwanted plants growing among marigold plants
- KU19.** different signs of pests and disease in marigold plants and their recommended treatment
- KU20.** the importance of removing dead leaves and branches from marigold plants
- KU21.** the recommended organic and inorganic fertilisers to be used for marigold flower crop
- KU22.** the indicators of the readiness of marigold flowers for being harvested
- KU23.** the use of appropriate implements such as secateurs for harvesting the marigold flowers
- KU24.** the importance of ensuring no damage to flowers during harvesting
- KU25.** the applicable criteria for sorting and grading the harvested marigold flowers
- KU26.** the process of preparing and applying the preservative solution on marigold flowers to preserve their freshness
- KU27.** the process of packing marigold flowers in appropriate packing material such as gunny bags or bamboo baskets

Generic Skills (GS)

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

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- GS1.** maintain work-related records
- GS2.** read and follow the health and safety instructions
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** identify possible disruptions to work and take appropriate preventive measures
- GS7.** take quick decisions to deal with workplace emergencies/ accidents
- GS8.** evaluate all possible solutions to a problem to select the best one
- GS9.** co-ordinate with the co-workers to achieve work objectives

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and prepare the field</i>	8	10	-	8
PC1. select a site for marigold cultivation with the required temperature and exposure to the sunlight for the optimum growth of plants	-	-	-	-
PC2. ensure the site does not experience waterlogging	-	-	-	-
PC3. ensure the soil is well-drained and loamy with the recommended alkalinity, salinity, acidity and pH levels	-	-	-	-
PC4. carry out ploughing and harrowing in the field, and create ridges and furrows of recommended dimensions	-	-	-	-
PC5. apply farmyard manure in the field in the recommended quantity	-	-	-	-
PC6. disinfect the soil using the recommended chemicals as per the prescription	-	-	-	-
PC7. install the appropriate irrigation or fertigation system in the field	-	-	-	-
PC8. create drains in the field for effective drainage of water	-	-	-	-
<i>Select the marigold variety and propagation method</i>	2	4	-	2
PC9. select the appropriate variety of marigold to be grown according to the region and climate	-	-	-	-
PC10. select an appropriate propagation method for growing marigold saplings such as terminal seeding or cuttings	-	-	-	-
<i>Propagate, harvest and transplant the saplings</i>	6	8	-	6
PC11. treat the marigold seeds with the recommended pesticide or insecticide before sowing	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. propagate marigold saplings in the required quantity in the nursery, protecting them from strong winds, and excessive heat and cold	-	-	-	-
PC13. maintain the recommended level of moisture in the nursery bed for the optimum growth of saplings	-	-	-	-
PC14. harvest the marigold saplings from the nursery bed they when are ready for being transplanted	-	-	-	-
PC15. transplant marigold saplings in the field at the recommended depth and planting density, protecting them from damage	-	-	-	-
PC16. press soil around the root zone to avoid the formation of air pockets	-	-	-	-
PC17. water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting	-	-	-	-
<i>Maintain the marigold plants</i>	8	10	-	6
PC18. apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals	-	-	-	-
PC19. check the marigold plants regularly for signs of pests and disease	-	-	-	-
PC20. apply the recommended pesticide or insecticide as per the prescription	-	-	-	-
PC21. water the marigold plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC22. drain out any water accumulated in the field	-	-	-	-
PC23. carry out pinching to induce the growth of lateral branches	-	-	-	-
PC24. remove dead leaves and branches from marigold plants	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. carry out weeding at the recommended intervals to remove unwanted plants growing among the marigold plants	-	-	-	-
<i>Carry out harvesting and post-harvest management</i>	6	8	-	8
PC26. check the marigold flowers to ensure their maturity for being harvested	-	-	-	-
PC27. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the marigold flowers	-	-	-	-
PC28. irrigate the marigold plants before harvesting	-	-	-	-
PC29. harvest the marigold flowers with or without stalk as per the market requirements, ensuring no damage to flowers and plants	-	-	-	-
PC30. collect the harvested flowers in appropriate baskets or containers and store them at the recommended temperature and humidity	-	-	-	-
PC31. sort and grade marigold flowers on the basis of applicable parameters	-	-	-	-
PC32. pack the harvested marigold flowers in gunny bags or bamboo baskets	-	-	-	-
PC33. maintain the record of harvesting and processing of marigold flowers	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0740
NOS Name	Carryout cultivation of marigold flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	2
Credits	2
Version	1.0
Last Reviewed Date	29/09/2023
Next Review Date	29/09/2026
NSQC Clearance Date	29/09/2023

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) (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. Individual assessment agencies will create unique question papers for the theory part for each candidate at each examination/training centre (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training centre based on these criteria.
5. In case of successfully passing only a certain number of NOSs, the trainee is eligible to take a

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subsequent assessment on the balance NOS's to pass the Qualification Pack.

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

Minimum Aggregate Passing % at QP Level : 50

(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/N0732.Prepare for the cultivation of flower crops	30	40	-	30	100	10
AGR/N0733.Propagate the flower plant saplings	30	40	-	30	100	15
AGR/N0734.Harvest, transplant and maintain the saplings to grow flowers	30	40	-	30	100	20
AGR/N0735.Carryout harvesting and post-harvest management of flower crop	30	40	-	30	100	20
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	5
Total	140	190	-	120	450	70

Elective: 1 Rose

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0736.Carryout cultivation of rose flowers	30	40	-	30	100	30
Total	30	40	-	30	100	30

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Elective: 2 Gerbera

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0737.Carryout cultivation of gerbera flowers	30	40	-	30	100	30
Total	30	40	-	30	100	30

Elective: 3 Chrysanthemum

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0738.Carryout cultivation of chrysanthemum flowers	30	40	-	30	100	30
Total	30	40	-	30	100	30

Elective: 4 Orchid

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0739.Carryout cultivation of orchid flowers	30	40	-	30	100	30
Total	30	40	-	30	100	30

Elective: 5 Marigold

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0740.Carryout cultivation of marigold flowers	30	40	-	30	100	30

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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
Total	30	40	-	30	100	30

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Acronyms

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

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Glossary

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

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