Qualification Pack



Floriculturist

Electives: Rose/ Gerbera/ Chrysanthemum/ Orchid/ Marigold

QP Code: AGR/Q0701

Version: 4.0

NSQF Level: 4

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Contents

AGR/Q0701: Floriculturist 3
Brief Job Description 3
Applicable National Occupational Standards (NOS) 3
Compulsory NOS 3
Elective 1: Rose 3
Elective 2: Gerbera 3
Elective 3: Chrysanthemum 4
Elective 4: Orchid 4
Elective 5: Marigold 4
Qualification Pack (QP) Parameters 4
AGR/N0701: Prepare for the cultivation of flower crop 6
AGR/N0718: Propagate flower plant saplings 12
AGR/N0702: Harvest, transplant and maintain saplings to grow flowers 18
AGR/N0703: Carry out harvesting and post-harvest management of flower crop 24
AGR/N9908: Undertake basic entrepreneurial activities for small enterprise 29
AGR/N9922: Engage in collective farming/activity 36
AGR/N9903: Maintain health and safety at the workplace 42
DGT/VSQ/N0102: Employability Skills (60 Hours) 48
AGR/N0719: Carry out cultivation of rose flowers 56
AGR/N0720: Carry out cultivation of gerbera flowers 63
AGR/N0721: Carry out cultivation of chrysanthemum flowers 70
AGR/N0722: Carry out cultivation of orchid flowers 78
AGR/N0723: Carry out cultivation of marigold flowers 85
Assessment Guidelines and Weightage 92
Assessment Guidelines 92
Assessment Weightage 93
Acronyms 96
Glossary 97

AGR/Q0701: Floriculturist

Brief Job Description

A floriculturist performs various activities in the process of cultivating flower crop such as selecting the site, arranging the required inputs, preparing the field, propagating saplings in the nursery, transplanting the saplings and maintaining the plants. The person is also responsible for carrying out harvesting, post-harvest management 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/N0701: Prepare for the cultivation of flower crop
2. AGR/N0718: Propagate flower plant saplings
3. AGR/N0702: Harvest, transplant and maintain saplings to grow flowers
4. AGR/N0703: Carry out harvesting and post-harvest management of flower crop
5. AGR/N9908: Undertake basic entrepreneurial activities for small enterprise
6. AGR/N9922: Engage in collective farming/activity
7. AGR/N9903: Maintain health and safety at the workplace
8. DGT/VSQ/N0102: Employability Skills (60 Hours)

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

Elective 1: Rose

The OS unit is about the cultivation of rose flowers

1. AGR/N0719: Carry out cultivation of rose flowers

Elective 2: Gerbera

The OS unit is about the cultivation of gerbera flowers

1. AGR/N0720: Carry out cultivation of gerbera flowers

Elective 3: Chrysanthemum

The OS unit is about the cultivation of chrysanthemum flowers.

1. AGR/N0721: Carry out cultivation of chrysanthemum flowers

Elective 4: Orchid

The OS unit is about the cultivation of orchid flowers.

1. AGR/N0722: Carry out cultivation of orchid flowers

Elective 5: Marigold

The OS unit is about the cultivation of marigold flowers.

1. AGR/N0723: Carry out cultivation of marigold flowers

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
Country	India
NSQF Level	4
Credits	21
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6113.0601

Minimum Educational Qualification & Experience	12th grade Pass (or equivalent) OR 10th grade pass with 3 Years of experience relevant experience in Agriculture & Allied sectors OR Previous relevant Qualification of NSQF Level (3.5) with 1.5 years of experience relevant experience in Agriculture & Allied sectors OR Previous relevant Qualification of NSQF Level (3) with 3 Years of experience relevant experience in Agriculture & Allied sectors
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	NA
Next Review Date	18/02/2028
NSQC Approval Date	18/02/2025
Version	4.0
Reference code on NQR	QG-04-AG-03542-2025-V2-ASCI
NQR Version	2

AGR/N0701: Prepare for the cultivation of flower crop

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 grow in the field as per the climatic conditions, resistance to local pests, adaptability to conditions, 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. Analyse the crop calender to determine optimal agro climatic conditions

PC7. identify and select a relevant vendor based on the quality and price of required resources available with them

PC8. 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:

PC9. co-ordinate with an approved lab to identify the soil and water treatment requirements through testing

PC10. apply the appropriate treatment to the soil as per the lab’s recommendation to improve its fertility, and adjust the pH and salinity levels

PC11. remove all roots, debris, and waste materials from the field

PC12. till the field to the required depth using the relevant farm machineries and mix sand in the soil in the prescribed quantity

PC13. level the field appropriately

PC14. carry out soil fumigation to prevent the growth of soil-borne pathogens
PC15. prepare ridges and furrows of the recommended dimensions and apply the recommended fertilisers to them
PC16. prepare sunken, level or raised nursery bed according to the requirement for raising saplings
PC17. install an irrigation or fertigation system in the field
PC18. create drains in the field for the effective drainage of water
PC19. 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
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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and flower varieties to be grown	**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 grow in the field as per the climatic conditions, resistance to local pests, adaptability to conditions, market demand and profitability	-	-	-	-
Arrange the required resources	**12**	**12**	**-**	**8**
PC5. estimate the requirement of various resources such as seeds, seedlings, pesticides, fertilisers, tools, implements, equipment, etc.	-	-	-	-
PC6. Analyse the crop calender to determine optimal agro climatic conditions	-	-	-	-
PC7. identify and select a relevant vendor based on the quality and price of required resources available with them	-	-	-	-
PC8. purchase the necessary resources in the required quantity and store them appropriately	-	-	-	-
Prepare the field for flower cultivation	**8**	**16**	**-**	**8**
PC9. co-ordinate with an approved lab to identify the soil and water treatment requirements through testing	-	-	-	-
PC10. apply the appropriate treatment to the soil as per the lab’s recommendation to improve its fertility, and adjust the pH and salinity levels	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. remove all roots, debris, and waste materials from the field	-	-	-	-
PC12. till the field to the required depth using the relevant farm machineries and mix sand in the soil in the prescribed quantity	-	-	-	-
PC13. level the field appropriately	-	-	-	-
PC14. carry out soil fumigation to prevent the growth of soil-borne pathogens	-	-	-	-
PC15. prepare ridges and furrows of the recommended dimensions and apply the recommended fertilisers to them	-	-	-	-
PC16. prepare sunken, level or raised nursery bed according to the requirement for raising saplings	-	-	-	-
PC17. install an irrigation or fertigation system in the field	-	-	-	-
PC18. create drains in the field for the effective drainage of water	-	-	-	-
PC19. erect fences around the field to protect it from animals	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0701
NOS Name	Prepare for the cultivation of flower crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0718: Propagate 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 agro-climatic 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 division method

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

PC13. select a healthy and grown plant for root/shoot division

PC14. create divisions from the plant's root/shoot

PC15. use the root/shoot 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:

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. prune the rootstock and make incision for grafting
PC20. prepare the scion
PC21. connect scion and rootstock
PC22. secure and protect the graft to propagate plants
PC23. prepare a rootstock for budding
PC24. cut a bud-stick from a healthy and disease-free plant with the required characteristics
PC25. prepare and use bud-scion to propagate plants
PC26. apply the approved pesticides and insecticides to protect the saplings from pests and diseases
PC27. prepare natural growth boosters for quick plant growth
PC28. store the seeds and cuttings properly to prevent damage

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. the method of selecting and handling scion wood for grafting
KU15. different types of grafts
KU16. grafting tools and techniques

KU17. how to prepare a rootstock for budding
KU18. how to extract a bud-stick
KU19. how to prepare and use bud-scion to propagate plants
KU20. the approved pesticides and insecticides to be used on saplings to protect them from pests and diseases
KU21. the importance of organic growth hormones and low-cost rooting mixtures
KU22. preparation methods for natural growth boosters, like compost tea or cow dung slurry
KU23. storage practices for seeds and cuttings to prevent damage

Generic Skills (GS)

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 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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Propagate saplings through seeds	**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 agro-climatic 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	**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	-	-	-	-
Propagate saplings through the division method	**4**	**6**	**-**	**4**
PC13. select a healthy and grown plant for root/shoot division	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. create divisions from the plant's root/shoot	-	-	-	-
PC15. use the root/shoot divisions to propagate plants maintaining the recommended conditions	-	-	-	-
Propagate saplings through the layering and budding method	**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. prune the rootstock and make incision for grafting	-	-	-	-
PC20. prepare the scion	-	-	-	-
PC21. connect scion and rootstock	-	-	-	-
PC22. secure and protect the graft to propagate plants	-	-	-	-
PC23. prepare a rootstock for budding	-	-	-	-
PC24. cut a bud-stick from a healthy and disease-free plant with the required characteristics	-	-	-	-
PC25. prepare and use bud-scion to propagate plants	-	-	-	-
PC26. apply the approved pesticides and insecticides to protect the saplings from pests and diseases	-	-	-	-
PC27. prepare natural growth boosters for quick plant growth	-	-	-	-
PC28. store the seeds and cuttings properly to prevent damage	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0718
NOS Name	Propagate flower plant saplings
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0702: Harvest, transplant and maintain 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 using the appropriate tools and implements, at the recommended planting depth and density, protecting them from damage

PC5. water the saplings 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 saplings

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, as per the irrigation schedule and prevailing weather conditions

PC10. follow the recommended measures to protect the plants and flowers from pests and diseases

PC11. apply the recommended organic preparations and/ or 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

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. segregate waste into appropriate categories

PC19. dispose the non-recyclable waste in an environment-friendly manner and use the recyclable waste appropriately

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

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Harvest the saplings	**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	-	-	-	-
Transplant the saplings	**8**	**8**	**-**	**8**
PC4. transplant the saplings in the field using the appropriate tools and implements, at the recommended planting depth and density, protecting them from damage	-	-	-	-
PC5. water the saplings 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 saplings	-	-	-	-
PC7. arrange to protect the saplings from strong winds and excessive heat or cold	-	-	-	-
Maintain the flower plants and flowers	**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, as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC10. follow the recommended measures to protect the plants and flowers from pests and diseases	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. apply the recommended organic preparations and/ or 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	-	-	-	-
Optimise resource utilisation	**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	-	-	-	-
Perform waste management	**4**	**6**	**-**	**4**
PC18. segregate waste into appropriate categories	-	-	-	-
PC19. dispose the non-recyclable waste in an environment-friendly manner and use the recyclable waste appropriately	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0702
NOS Name	Harvest, transplant and maintain saplings to grow flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0703: Carry out 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 eco -friendly baskets or paper wraps 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

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. cost-effective cooling techniques, such as evaporative cooling chambers
KU6. the process of applying relevant treatment in the storage area to remove any pests, insects and rodents
KU7. the process of identifying the market demand for flower crop, connecting with potential buyers and negotiating with them
KU8. different types of packing material suitable for flowers including eco-friendly baskets or paper wraps.
KU9. the appropriate mode of transport for safe and hygienic delivery of flowers
KU10. how to use different types of e-payment methods
KU11. 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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Harvest the flower crop	**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	-	-	-	-
Carry out post-harvest management	**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.	-	-	-	-
Prepare the storage area and store the flower crop	**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	-	-	-	-
Market the flower crop	**12**	**18**	**-**	**8**
PC10. identify the market demand and potential buyers of the harvested flowers	-	-	-	-
PC11. negotiate the price with the buyer	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. select the appropriate packing material such as eco -friendly baskets or paper wraps 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**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0703
NOS Name	Carry out harvesting and post-harvest management of flower crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	4.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N9908: Undertake basic entrepreneurial activities for small enterprise

Description

This OS unit is about undertaking basic entrepreneurial or business activities in the agriculture sector.

Scope

The scope covers the following :

- Plan the agricultural enterprise/ business
- Manage the agricultural production process
- Manage the post-production and marketing processes

Elements and Performance Criteria

Plan the agricultural enterprise/ business

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

PC1. analyse the demand and supply of the relevant agricultural produce in the market

PC2. identify the target customers and assess their needs and expectations with respect to the quality and price of the produce

PC3. identify various types of agricultural entrepreneurship/ business opportunities

PC4. plan agricultural production with the use of relevant and efficient technologies for availing funds

PC5. identify appropriate and authentic advisory services/Government authority for skill upgradation to successfully plan and implement business activities

PC6. prepare a basic business plan for the agricultural entrepreneurship/business activities

PC7. identify appropriate sources of funding for the agricultural entrepreneurship/ business

PC8. coordinate with the relevant government authorities to subscribe to the relevant government schemes and programs to benefit from them

PC9. ensure compliance with the government structural reforms and framework along with the applicable rules and regulations while setting up the agricultural enterprise/ business

Manage the agricultural production process

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

PC10. select and arrange the necessary resources for the business operations

PC11. ensure the use of relevant and efficient production technologies as per planning and availability of funds

PC12. follow the recommended practices for efficient input resource management

PC13. optimise the production processes and output through the amalgamation of existing practices with smart technologies

PC14. follow the recommended sustainability practices during agricultural production to prevent adverse impacts on the environment and produce viz. deforestation, loss of biodiversity, soil degradation, etc.

Manage the post-production and marketing processes

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

PC15. ensure the availability of proper storage infrastructures and facilities post-production of the produce as per the industry quality standards

PC16. collect information related to the wholesale and retail price of produce

PC17. calculate the costs incurred and determine the price of the produce for profitability

PC18. ensure that the cost of production, transportation, and marketing are considered while calculating the cost and setting the price for the produce

PC19. collect information related to various subsidies/funds offered by the government, authorised state units and other financial institutions involved with the promotion of the produce

PC20. select appropriate marketing channels for the produce, considering the relevant requirements and constraints

PC21. identify various risks to production and post-production processes and manage them appropriately

PC22. undertake outreach programs to promote agricultural products and services, and expand agri-business

PC23. prepare and execute a marketing plan considering the 4Ps i.e. product, price, promotion, and place and 4As i.e. acceptability, affordability, accessibility, and awareness

PC24. use the relevant digital services such as e-commerce, e-payments, electronic record-keeping, etc.

PC25. use efficient post-production logistics means to improve the supply quantity, reduce the cost to the consumer, and increase demand consequently

PC26. ensure all the relevant information such as quality and quantity of produce, date of manufacture, batch number, and sale is recorded electronically and/ or manually

PC27. coordinate with the various stakeholders for efficient and sustainable agri-business growth and development

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. how to analyse the demand and supply of the relevant agricultural produce in the market

KU2. the process of identifying the target customers and assess their needs and expectations with respect to the quality and price of the produce

KU3. how to identify various types of agricultural entrepreneurship/ business opportunities

KU4. how to prepare a basic business plan for the agricultural entrepreneurship/business activities

KU5. appropriate sources of funding for the agricultural entrepreneurship/ businesses

KU6. the relevant government schemes and programs

KU7. the importance of ensuring compliance with the government structural reforms and framework, along with the applicable rules and regulations

KU8. various resources required for agricultural production

KU9. the process of planning agricultural production and the use of relevant technologies to enhance production

KU10. the importance of ensuring no cause adverse impact on the environment and produce during production

KU11. the recommended practices to be followed for efficient input resource management

KU12. the process of optimising the production processes and output through the amalgamation of existing practices with smart technologies

KU13. the recommended sustainability practices to be followed during agricultural production to prevent and deal with deforestation, loss of biodiversity, soil degradation, etc.

KU14. how to collect information related to the wholesale and retail price of agricultural produce

KU15. how to calculate the economics of the produce viz. production cost, price of the produce, B:C Ratio etc.

KU16. relevant government schemes with the provision of subsidies/funds for the promotion of agricultural produce

KU17. the process of selecting appropriate marketing channels for marketing agricultural produce, and the applicable requirements and constraints

KU18. the relevant buyers of different types of agricultural produce such as co-operatives, retailers, local vendors, wholesalers, e-trading portals, marketing companies, exporters, etc.

KU19. how to identify and manage various risks to production and post-production processes

KU20. how to undertake outreach programs to promote agricultural products and services, and expand agri-business

KU21. the 4Ps i.e. product, price, promotion, and place and 4As i.e. acceptability, affordability, accessibility, and awareness considered while preparing and executing a marketing plan

KU22. use of the relevant digital services such as e-commerce, e-payments, electronic record-keeping, etc.

KU23. the importance of using efficient post-production logistics

KU24. the importance of maintaining various records accurately

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 work

GS3. communicate politely and professionally

GS4. listen attentively to understand the information being shared

GS5. plan and schedule tasks for efficient time management

GS6. identify possible disruptions to work and take appropriate preventive measures

GS7. take quick decisions to deal with workplace emergencies/ accident

GS8. evaluate all possible solutions to a problem to select the best one

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Plan the agricultural enterprise/ business	**10**	**14**	**-**	**10**
PC1. analyse the demand and supply of the relevant agricultural produce in the market	-	-	-	-
PC2. identify the target customers and assess their needs and expectations with respect to the quality and price of the produce	-	-	-	-
PC3. identify various types of agricultural entrepreneurship/ business opportunities	-	-	-	-
PC4. plan agricultural production with the use of relevant and efficient technologies for availing funds	-	-	-	-
PC5. identify appropriate and authentic advisory services/Government authority for skill upgradation to successfully plan and implement business activities	-	-	-	-
PC6. prepare a basic business plan for the agricultural entrepreneurship/business activities	-	-	-	-
PC7. identify appropriate sources of funding for the agricultural entrepreneurship/ business	-	-	-	-
PC8. coordinate with the relevant government authorities to subscribe to the relevant government schemes and programs to benefit from them	-	-	-	-
PC9. ensure compliance with the government structural reforms and framework along with the applicable rules and regulations while setting up the agricultural enterprise/ business	-	-	-	-
Manage the agricultural production process	**8**	**10**	**-**	**8**
PC10. select and arrange the necessary resources for the business operations	-	-	-	-
PC11. ensure the use of relevant and efficient production technologies as per planning and availability of funds	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. follow the recommended practices for efficient input resource management	-	-	-	-
PC13. optimise the production processes and output through the amalgamation of existing practices with smart technologies	-	-	-	-
PC14. follow the recommended sustainability practices during agricultural production to prevent adverse impacts on the environment and produce viz. deforestation, loss of biodiversity, soil degradation, etc.	-	-	-	-
Manage the post-production and marketing processes	**12**	**16**	**-**	**12**
PC15. ensure the availability of proper storage infrastructures and facilities post-production of the produce as per the industry quality standards	-	-	-	-
PC16. collect information related to the wholesale and retail price of produce	-	-	-	-
PC17. calculate the costs incurred and determine the price of the produce for profitability	-	-	-	-
PC18. ensure that the cost of production, transportation, and marketing are considered while calculating the cost and setting the price for the produce	-	-	-	-
PC19. collect information related to various subsidies/funds offered by the government, authorised state units and other financial institutions involved with the promotion of the produce	-	-	-	-
PC20. select appropriate marketing channels for the produce, considering the relevant requirements and constraints	-	-	-	-
PC21. identify various risks to production and post-production processes and manage them appropriately	-	-	-	-
PC22. undertake outreach programs to promote agricultural products and services, and expand agri-business	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. prepare and execute a marketing plan considering the 4Ps i.e. product, price, promotion, and place and 4As i.e. acceptability, affordability, accessibility, and awareness	-	-	-	-
PC24. use the relevant digital services such as e-commerce, e-payments, electronic record-keeping, etc.	-	-	-	-
PC25. use efficient post-production logistics means to improve the supply quantity, reduce the cost to the consumer, and increase demand consequently	-	-	-	-
PC26. ensure all the relevant information such as quality and quantity of produce, date of manufacture, batch number, and sale is recorded electronically and/ or manually	-	-	-	-
PC27. coordinate with the various stakeholders for efficient and sustainable agri-business growth and development	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9908
NOS Name	Undertake basic entrepreneurial activities for small enterprise
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

AGR/N9922: Engage in collective farming/activity

Description

This OS unit is about working collectively in Producer Groups (PGs), Farmers Interest Groups (FIGs), Self-Help Groups (SHGs) and other similar groups to attain a common objective.

Scope

The scope covers the following :

- Create PGs/ FIGs/ SHGs
- Prepare for the PG/ FIG/ SHG operations
- Conduct group meetings and training sessions
- Carry out collective farming/ activities

Elements and Performance Criteria

Create PGs/ FIGs/ SHGs

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

PC1. identify farmers/ groups with the common interests in the area

PC2. create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations

Prepare for the PG/ FIG/ SHG operations

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

PC3. organise fundraising activities to support the functioning of the group

PC4. establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds

PC5. induct subject matter experts (SMEs) in the group

PC6. assist in arranging the required Information and Communication Technology (ICT) products for the group

PC7. plan the commodity convergence with the relevant developmental programmes

PC8. plan optimal production to meet the market and household food security needs

Conduct group meetings and training sessions

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

PC9. conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.

PC10. assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings

PC11. organise capacity building exercises such as skill development and training programmes

Carry out collective farming/ activities

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

PC12. organise field trials to identify and resolve problems encountered by group members in the field operations

PC13. procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members

PC14. establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.

PC15. use the group's credit facility as per the applicable terms and conditions

PC16. carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.

PC17. co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.

PC18. assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs

PC19. identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.

PC20. arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.

PC21. connect and partner with other groups to expand the network and address common problems at a large scale

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the process of preparing for the PG/ FIG/ SHG operations such as fundraising, induction of SMEs, investing in ICT products, etc.

KU2. how to establish links with the local government at the panchayat level to obtain access to the relevant development programmes and funds

KU3. the process of commodity convergence with the relevant developmental programmes

KU4. the importance of planning optimal production to meet the market and household food security needs

KU5. the importance of setting the group objectives and deciding the group income-generating enterprises/ activities, methods of operation, benefits, etc.

KU6. the importance of organising the PG/FIG/ SHG meetings and training sessions to resolve common concerns and get information about the latest developments in the field of work

KU7. the benefits of various capacity building exercises such as skill development and training programmes

KU8. the importance and process of conducting field trials to identify and resolve problems encountered by farmers in the field operations

KU9. the concept of group-owned bank to provide quality seeds, fertilisers, pesticides, tools and equipment to the member farmers

KU10. the process of using the group's credit facility

KU11. core collective farming activities such as procuring inputs in bulk, large-scale farming, packing, transportation and marketing of the produce, etc.

KU12. the concept and benefits of forming forward and backward linkages

KU13. relevant value addition practices such as processing, packing, upgrading the quality, etc.
KU14. the benefits of connecting with similar groups to address common problems at a large scale

Generic Skills (GS)

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

GS1. write relevant notes and reports
GS2. read the relevant literature to get latest updates about the field of work
GS3. communicate politely and professionally
GS4. listen attentively to understand the information being shared
GS5. plan tasks for effective use of time
GS6. identify possible disruptions to work and take appropriate preventive measures
GS7. evaluate all possible solutions to a problem to select the best one

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Create PGs/ FIGs/ SHGs	**6**	**8**	**-**	**6**
PC1. identify farmers/ groups with the common interests in the area	-	-	-	-
PC2. create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations	-	-	-	-
Prepare for the PG/ FIG/ SHG operations	**6**	**10**	**-**	**6**
PC3. organise fundraising activities to support the functioning of the group	-	-	-	-
PC4. establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds	-	-	-	-
PC5. induct subject matter experts (SMEs) in the group	-	-	-	-
PC6. assist in arranging the required Information and Communication Technology (ICT) products for the group	-	-	-	-
PC7. plan the commodity convergence with the relevant developmental programmes	-	-	-	-
PC8. plan optimal production to meet the market and household food security needs	-	-	-	-
Conduct group meetings and training sessions	**8**	**6**	**-**	**8**
PC9. conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.	-	-	-	-
PC10. assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings	-	-	-	-
PC11. organise capacity building exercises such as skill development and training programmes	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Carry out collective farming/ activities	**10**	**16**	**-**	**10**
PC12. organise field trials to identify and resolve problems encountered by group members in the field operations	-	-	-	-
PC13. procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members	-	-	-	-
PC14. establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.	-	-	-	-
PC15. use the group's credit facility as per the applicable terms and conditions	-	-	-	-
PC16. carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.	-	-	-	-
PC17. co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.	-	-	-	-
PC18. assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs	-	-	-	-
PC19. identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.	-	-	-	-
PC20. arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.	-	-	-	-
PC21. connect and partner with other groups to expand the network and address common problems at a large scale	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9922
NOS Name	Engage in collective farming/activity
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N9903: Maintain health and safety at the workplace

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Maintain personal hygiene

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

PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals

PC2. wash the worn clothes with soap and sun dry before use next time

PC3. ensure the face is covered with mask or three layers of cloth-piece

PC4. follow the workplace sanitization norms including distancing from sick people

Maintain clean and safe workplace

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

PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor

PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy

PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards

PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices

PC9. sanitize equipment, tools and machinery before and after use

PC10. use equipment and materials safely and correctly and return the same to designated storage after use

PC11. dispose waste safely and correctly in the designated area

PC12. recognize risks to bystanders and take required action to reduce the risks

PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed

PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger

PC15. follow government / workplace advisories incase of outbreak of any disease/disaster

Administer appropriate emergency procedures

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

PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements

PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements

PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques

PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate

PC20. report details of first aid administered in accordance with workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant legislation, standards, policies, and procedures at work

KU2. relevant health and safety requirements applicable to the work environment

KU3. own job role and responsibilities and sources of information pertaining to work

KU4. who to approach for support in order to obtain work related information, clarifications and support

KU5. importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business

KU6. personal hygiene and fitness requirement

KU7. importance of sanitization of the workplace

KU8. types of Personal Protective Equipment (PPE) required at the workplace and their importance

KU9. the correct and safe way to use materials and equipment required for the work

KU10. the importance of good housekeeping at the workplace

KU11. safe waste disposal methods

KU12. methods for minimizing environmental damage during work

KU13. the risks to health and safety including contagious diseases and the measures to be taken to control those risks in the area of work

KU14. workplace procedures and requirements for the prevention and treatment of workplace injuries/illnesses.

KU15. basic emergency first aid procedure

KU16. local emergency services

KU17. why accidents, incidents and problems should be reported and the appropriate actions to be taken

Generic Skills (GS)

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

GS1. record the data as per the requirement

GS2. report problems to the appropriate personnel in a timely manner

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

Assessment Criteria

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

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

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values – Citizenship

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

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

PC4. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC5. recognize the significance of 21st Century Skills for employment

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

Basic English Skills

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

PC7. use basic English for everyday conversation in different contexts, in person and over the telephone

PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC9. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

PC10. understand the difference between job and career

PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13. work collaboratively with others in a team

Diversity & Inclusion

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

PC14. communicate and behave appropriately with all genders and PwD

PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

PC16. select financial institutions, products and services as per requirement

PC17. carry out offline and online financial transactions, safely and securely

PC18. identify common components of salary and compute income, expenses, taxes, investments etc

PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

PC20. operate digital devices and carry out basic internet operations securely and safely

PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively

PC22. use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

PC26. identify different types of customers

PC27. identify and respond to customer requests and needs in a professional manner.

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

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

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

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

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

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

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

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

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

KU11. how to compute income and expenditure

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

KU13. different legal rights and laws

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

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

KU16. how to identify business opportunities

KU17. types and needs of customers

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

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

Generic Skills (GS)

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

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

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

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

Assessment Criteria

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

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

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

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	08/05/2025
Next Review Date	31/10/2025
NSQC Clearance Date	08/05/2025

AGR/N0719: Carry out 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

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

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and prepare the soil	**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	-	-	-	-
Select the rose variety and propagation method	**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	-	-	-	-
Harvest and transplant the saplings	**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	-	-	-	-
Maintain the rose plants	**6**	**10**	**-**	**4**
PC10. check the rose plants regularly for signs of pests and disease	-	-	-	-

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	-	-	-	-
Carry out harvesting and post-harvest management	**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	-	-	-	-

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**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0719
NOS Name	Carry out cultivation of rose flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0720: Carry out 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

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

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and prepare the soil	**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	-	-	-	-
Select the gerbera variety and propagation method	**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	-	-	-	-
Propagate, harvest and transplant the saplings	**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	-	-	-	-

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	-	-	-	-
Maintain the gerbera plants	**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	-	-	-	-
Carry out harvesting and post-harvest management	**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	-	-	-	-

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**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0720
NOS Name	Carry out cultivation of gerbera flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0721: Carry out 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

PC13. Carry out photoperiod management for year round flowering through lighting & black out

PC14. harvest the chrysanthemum saplings from the nursery bed when they are ready for being transplanted

PC15. transplant chrysanthemum saplings in the field at the recommended planting density, protecting them from damage

PC16. 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:

PC17. apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals

PC18. use the recommended growth regulators as per the requirement

PC19. check the chrysanthemum plants regularly for signs of pests and disease

PC20. apply the recommended pesticide or insecticide as per the prescription

PC21. water the chrysanthemum 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 and install appropriate support to train the plants

PC24. carry out disbudding, removing buds from the stems of plants and leaving only terminal buds to ensure the growth of large blooms

PC25. carry out pruning of chrysanthemum plants using the appropriate implements at regular intervals, removing the side suckers

PC26. 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:

PC27. check the chrysanthemum flowers to ensure their maturity for being harvested

PC28. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the chrysanthemum flowers

PC29. harvest and collect chrysanthemum flowers ensuring no damage to them and plants

PC30. store the harvested chrysanthemum flowers at the recommended temperature and humidity

PC31. sort and grade chrysanthemum flowers on the basis of applicable parameters

PC32. prepare and apply the preservative solution on the chrysanthemum flowers to preserve their freshness

PC33. bunch the chrysanthemum flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags

PC34. 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:

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. photoperiod management for year round flowering through lighting and blackout

KU9. the process of harvesting and transplanting chrysanthemum saplings in the field, and the recommended planting density to be maintained

KU10. the immediate care to be given to saplings after being transplanted

KU11. the process of installing support for chrysanthemum plants and training them

KU12. the recommended irrigation schedule for chrysanthemum plants

KU13. the practice of pinching to induce the growth of lateral branches and installing appropriate support to train the plants

KU14. the practice of disbudding to achieve large blooms

KU15. the importance and process of weeding out unwanted plants growing among chrysanthemum plants

KU16. different signs of pests and disease infestation in chrysanthemum plants and their recommended treatment

KU17. the importance of pruning chrysanthemum plants at appropriate intervals

KU18. the recommended organic and inorganic fertilisers to be used for chrysanthemum crop

KU19. 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

KU20. the indicators of the readiness of chrysanthemum flowers for being harvested

KU21. the use of appropriate implements such as secateurs for harvesting the chrysanthemum flowers

KU22. the importance of ensuring no damage to flowers during harvesting

KU23. the importance of maintaining the harvested chrysanthemum flowers in fresh chlorinated water and storing them at the recommended temperature and humidity

KU24. the applicable criteria for sorting and grading the harvested chrysanthemum flowers

KU25. the process of preparing and applying the preservative solution on chrysanthemum flowers to preserve their freshness

KU26. the process of bunching and packing chrysanthemum flowers in appropriate packing material such as bamboo baskets or gunny bags

KU27. 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 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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and prepare the field	**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	-	-	-	-
Select the chrysanthemum variety and propagation method	**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	-	-	-	-
Propagate, harvest and transplant the saplings	**4**	**6**	**-**	**4**
PC11. propagate chrysanthemum saplings in the required quantity in the nursery	-	-	-	-

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. Carry out photoperiod management for year round flowering through lighting & black out	-	-	-	-
PC14. harvest the chrysanthemum saplings from the nursery bed when they are ready for being transplanted	-	-	-	-
PC15. transplant chrysanthemum saplings in the field at the recommended planting density, protecting them from damage	-	-	-	-
PC16. water the saplings with the recommended quantity and apply fertilisers in an appropriate quantity immediately after transplanting	-	-	-	-
Maintain the chrysanthemum plants	**8**	**8**	**-**	**4**
PC17. apply the recommended organic and inorganic fertilisers in the prescribed quantity at appropriate intervals	-	-	-	-
PC18. use the recommended growth regulators as per the requirement	-	-	-	-
PC19. check the chrysanthemum plants regularly for signs of pests and disease	-	-	-	-
PC20. apply the recommended pesticide or insecticide as per the prescription	-	-	-	-
PC21. water the chrysanthemum 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 and install appropriate support to train the plants	-	-	-	-
PC24. carry out disbudding, removing buds from the stems of plants and leaving only terminal buds to ensure the growth of large blooms	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. carry out pruning of chrysanthemum plants using the appropriate implements at regular intervals, removing the side suckers	-	-	-	-
PC26. carry out weeding at the recommended intervals to remove unwanted plants growing among the chrysanthemum plants	-	-	-	-
Carry out harvesting and post-harvest management	**8**	**12**	**-**	**12**
PC27. check the chrysanthemum flowers to ensure their maturity for being harvested	-	-	-	-
PC28. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the chrysanthemum flowers	-	-	-	-
PC29. harvest and collect chrysanthemum flowers ensuring no damage to them and plants	-	-	-	-
PC30. store the harvested chrysanthemum flowers at the recommended temperature and humidity	-	-	-	-
PC31. sort and grade chrysanthemum flowers on the basis of applicable parameters	-	-	-	-
PC32. prepare and apply the preservative solution on the chrysanthemum flowers to preserve their freshness	-	-	-	-
PC33. bunch the chrysanthemum flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags	-	-	-	-
PC34. 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**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0721
NOS Name	Carry out cultivation of chrysanthemum flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	3.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0722: Carry out 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. carry out vegetative propagation through division, backbulbs, offshoots

PC7. prepare the growth media using the recommended materials and fill in the pots with its recommended quantity

PC8. ensure the pots have drainage holes for draining out excess water

PC9. pot the cuttings/backbulbs/offshoots as per the recommended method

PC10. plant the orchid seeds in pots at the recommended depth and density, and water them with the recommended quantity

PC11. 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:

PC12. install support in the pots such as bamboo sticks to help the orchid plants grow vertically

PC13. protect the orchid plants from strong winds, and direct sunlight

PC14. apply the recommended organic and inorganic fertilisers to orchid plants in the prescribed quantity at appropriate intervals

PC15. use the recommended growth regulators as per the requirement

PC16. check the orchid plants regularly for signs of pests and disease

PC17. spray the recommended pesticide or insecticide on orchid plants as per the prescription

PC18. water the orchid plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions

PC19. ensure no accumulation of water in the pots to prevent root rot

PC20. remove the dead leaves from orchid plants and weeds from the pots

PC21. 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:

PC22. check the orchid flowers to ensure their maturity for being harvested

PC23. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the orchid flowers

PC24. 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

PC25. sort and he grade the harvested orchid flowers on the basis of applicable parameters

PC26. prepare and apply the preservative solution on the orchid flowers to preserve their freshness

PC27. store the harvested orchid flowers at the recommended temperature and humidity

PC28. bunch the orchid flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags

PC29. 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. vegetative propagation methods, viz. division, backbulbs, offshoots

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KU8. potting and repotting of cuttings, backbulbs, offshoots

KU9. appropriate temperature and humidity to be maintained to induce the germination of orchid seeds

KU10. the process of installing support in the pots to help the orchid plants grow vertically

KU11. the importance of protecting the orchid plants from strong winds and direct sunlight

KU12. their prescribed quantity of recommended organic and inorganic fertilisers to be used with orchid plants

KU13. use of recommended growth regulators

KU14. various signs of pests and disease in orchid plants

KU15. the process of spraying the recommended pesticide or insecticide on orchid plants as per the prescription

KU16. water requirements of orchid plants and the recommended irrigation schedule

KU17. importance of ensuring no accumulation of water in the orchid plant pots to prevent root rot

KU18. the importance of removing the dead leaves from orchid plants and weeds from the pots

KU19. the importance of maintaining orchid plants in moderate temperature, recommended humidity and good air circulation

KU20. the indicators of the readiness of orchid flowers for being harvested

KU21. the use of appropriate implements such as secateurs to harvest orchid flowers with or without stalk, ensuring no damage to flowers and stalk

KU22. the applicable criteria for sorting and grading the harvested orchid flowers

KU23. the process of preparing and applying the preservative solution on orchid flowers to preserve their freshness

KU24. the practice of soaking orchid flower stalks in Sodium Hypochlorite solution for the recommended duration to improve their vase life

KU25. 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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and prepare for orchid flower cultivation	**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	-	-	-	-
Propagate orchid plants	**4**	**6**	**-**	**4**
PC6. carry out vegetative propagation through division, backbulbs, offshoots	-	-	-	-
PC7. prepare the growth media using the recommended materials and fill in the pots with its recommended quantity	-	-	-	-
PC8. ensure the pots have drainage holes for draining out excess water	-	-	-	-
PC9. pot the cuttings/backbulbs/offshoots as per the recommended method	-	-	-	-
PC10. plant the orchid seeds in pots at the recommended depth and density, and water them with the recommended quantity	-	-	-	-
PC11. maintain the pots at the recommended temperature and humidity to induce the germination of seeds	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain the orchid plants	**10**	**12**	**-**	**8**
PC12. install support in the pots such as bamboo sticks to help the orchid plants grow vertically	-	-	-	-
PC13. protect the orchid plants from strong winds, and direct sunlight	-	-	-	-
PC14. apply the recommended organic and inorganic fertilisers to orchid plants in the prescribed quantity at appropriate intervals	-	-	-	-
PC15. use the recommended growth regulators as per the requirement	-	-	-	-
PC16. check the orchid plants regularly for signs of pests and disease	-	-	-	-
PC17. spray the recommended pesticide or insecticide on orchid plants as per the prescription	-	-	-	-
PC18. water the orchid plants with the recommended quantity as per the irrigation schedule and prevailing weather conditions	-	-	-	-
PC19. ensure no accumulation of water in the pots to prevent root rot	-	-	-	-
PC20. remove the dead leaves from orchid plants and weeds from the pots	-	-	-	-
PC21. 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	**10**	**14**	**-**	**10**
PC22. check the orchid flowers to ensure their maturity for being harvested	-	-	-	-
PC23. arrange the appropriate implements and accessories such as secateurs, crate or baskets for harvesting and collecting the orchid flowers	-	-	-	-
PC24. 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	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. sort and he grade the harvested orchid flowers on the basis of applicable parameters	-	-	-	-
PC26. prepare and apply the preservative solution on the orchid flowers to preserve their freshness	-	-	-	-
PC27. store the harvested orchid flowers at the recommended temperature and humidity	-	-	-	-
PC28. bunch the orchid flowers and pack them using appropriate packing material such as bamboo baskets or gunny bags	-	-	-	-
PC29. maintain the record of harvesting and processing of orchid flowers	-	-	-	-
NOS Total	**30**	**40**	**-**	**30**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0722
NOS Name	Carry out cultivation of orchid flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	3.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

AGR/N0723: Carry out 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

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

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:

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

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Select the site and prepare the field	**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	-	-	-	-
Select the marigold variety and propagation method	**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	-	-	-	-
Propagate, harvest and transplant the saplings	**6**	**8**	**-**	**6**
PC11. treat the marigold seeds with the recommended pesticide or insecticide before sowing	-	-	-	-

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	-	-	-	-
Maintain the marigold plants	**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	-	-	-	-

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	-	-	-	-
Carry out harvesting and post-harvest management	**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**

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0723
NOS Name	Carry out cultivation of marigold flowers
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Floriculture Farming
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down 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

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

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

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0701.Prepare for the cultivation of flower crop	30	40	-	30	100	10
AGR/N0718.Propagate flower plant saplings	30	40	-	30	100	10
AGR/N0702.Harvest, transplant and maintain saplings to grow flowers	30	40	-	30	100	15
AGR/N0703.Carry out harvesting and post-harvest management of flower crop	30	40	-	30	100	15
AGR/N9908.Undertake basic entrepreneurial activities for small enterprise	30	40	-	30	100	10
AGR/N9922.Engage in collective farming/activity	30	40	-	30	100	5
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	**240**	**295**	**-**	**215**	**750**	**75**

Elective: 1 Rose

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0719.Carry out cultivation of rose flowers	30	40	-	30	100	25
Total	**30**	**40**	**-**	**30**	**100**	**25**

Elective: 2 Gerbera

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0720.Carry out cultivation of gerbera flowers	30	40	-	30	100	25
Total	**30**	**40**	**-**	**30**	**100**	**25**

Elective: 3 Chrysanthemum

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0721.Carry out cultivation of chrysanthemum flowers	30	40	-	30	100	25
Total	**30**	**40**	**-**	**30**	**100**	**25**

Elective: 4 Orchid

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0722.Carry out cultivation of orchid flowers	30	40	-	30	100	25
Total	**30**	**40**	**-**	**30**	**100**	**25**

Elective: 5 Marigold

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0723.Carry out cultivation of marigold flowers	30	40	-	30	100	25
Total	**30**	**40**	**-**	**30**	**100**	**25**

Acronyms

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

Glossary

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

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