Model Curriculum

QP Name: Gardener cum Nursery Raiser

QP Code: AGR/Q0809

Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

Agriculture Skill Council of India || Agriculture Skill Council of India (ASCI), 6th Floor, GNG Tower, Plot No. 10, Sector - 44

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Training Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, Gardening & Urban Farming
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6113.9900
Minimum Educational Qualification and Experience	12th grade pass OR 10th grade pass with 2 years of relevant experience OR 10th grade pass and pursuing continuous schooling OR Previous relevant qualification of NSQF Level 3.0 with minimum education as 8th grade pass with 3 years of relevant experience OR Previous relevant qualification of NSQF Level 3.5 with 1.5 years of relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	29/03/2023
Next Review Date	29/03/2026
NSQC Approval Date	29/03/2023
QP Version	2.0
Model Curriculum Creation Date	29/03/2023
Model Curriculum Valid Up to Date	29/03/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	390 Hours
Maximum Duration of the Course	390 Hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Describe the process of raising saplings in the nursery for transplanting in the garden.
- Describe the process of raising, maintaining, transplanting and harvesting seedlings.
- Explain the process of assisting in managing plant health and nursery operations.
- Explain the process of preparing to set up the garden.
- Describe the process of setting up the garden as per the plan.
- Demonstrate various practices to ensure health and safety at work.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	**05:00**	**00:00**	**0:00**	**00:00**	**05:00**
Module 1: Introduction to the role of a Gardener cum Nursery Raiser	05:00	00:00	0:00	00:00	05:00
AGR/N0801: Raise saplings in the nursery for transplanting in the garden **NOS Version- 2.0** **NSQF Level- 4**	**25:00**	**30:00**	**0:00**	**00:00**	**55:00**
Module 2: Process of raising saplings in the nursery for transplanting in the garden	25:00	30:00	0:00	00:00	55:00
AGR/N0820: Raise, maintain, transplant and harvest seedlings **NOS Version- 2.0** **NSQF Level- 3**	**20:00**	**40:00**	**0:00**	**00:00**	**60:00**
Module 3: Process of raising, maintaining, transplanting and harvesting seedlings	20:00	40:00	0:00	00:00	60:00
AGR/N0821: Assist in managing plant health and nursery operations **NOS Version- 2.0**	**40:00**	**50:00**	**0:00**	**00:00**	**90:00**

NSQF Level- 3					
Module 4: Process of assisting in managing plant health and nursery operations	40:00	50:00	0:00	00:00	90:00
AGR/N0802: Prepare to set up the garden **NOS Version- 2.0** **NSQF Level- 4**	**15:00**	**15:00**	**0:00**	**00:00**	**30:00**
Module 5: Process of preparing to set up the garden	15:00	15:00	0:00	00:00	30:00
AGR/N0803: Set up the garden as per the plan **NOS Version- 2.0** **NSQF Level- 4**	**10:00**	**20:00**	**0:00**	**00:00**	**30:00**
Module 6: Process of setting up the garden as per the plan	10:00	20:00	0:00	00:00	30:00
AGR/N9903 Maintain health and safety at the workplace **NOS Version- 3.0** **NSQF Level- 4**	**05:00**	**25:00**	**0:00**	**00:00**	**30:00**
Module 7: Hygiene and cleanliness	02:00	10:00	0:00	00:00	12:00
Module 8: Safety and emergency procedures	03:00	15:00	0:00	00:00	18:00
DGT/VSQ/N0102: Employability Skills (60 Hours) **NOS Version- 1.0** **NSQF Level- 4**	**60:00**	**00:00**	**0:00**	**00:00**	**60:00**
Module 9: Employability Skills	60:00	00:00	0:00	00:00	60:00
Total Duration	**180:00**	**180:00**	**0:00**	**00:00**	**360:00**
OJT: 30 Hours					

Module Details

Module 1: Introduction to the role of a Gardener cum Nursery Raiser
Bridge Module

Terminal Outcomes:

- Discuss the job role of a Gardener cum Nursery Raiser.

Duration: 05:00	Duration: 0:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the size and scope of the agriculture industry and its sub-sectors. - Discuss the role and responsibilities of a Gardener cum Nursery Raiser. - Identify various employment opportunities for a Gardener cum Nursery Raiser.	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of raising saplings in the nursery for transplanting in the garden
Mapped to AGR/N0801 v2.0

Terminal Outcomes:

- Explain the process of preparing for nursery operations.
- Explain the process of preparing the nursery bed.
- Describe the process of propagating saplings through seeds.
- Describe the process of propagating plants through cutting, root division, layering and budding.

Duration: 25:00	Duration: 30:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain applicable record-keeping requirements in the job role. - List various resources required for setting up a nursery. - Explain various types of seedbed such as raised/ level/ sunken. - Describe the process of preparing a nursery bed and seedbed. - List the variety of material required for propagating plants in a nursery. - List the relevant tools and equipment and their correct use. - Explain the safe use of fertilizers, pesticides and insecticides. - State the water requirements of different types of saplings.	- Demonstrate the process of constructing the shade net house, store-room, compost area, etc. - Demonstrate the process of erecting framed structures such as poly-tunnels, hardening chamber, mist chamber for plant propagation. - Show how to prepare farmyard manure or compost as per the Standard Operating Procedure (SOP). - Demonstrate the process of conducting a soil test to identify the soil treatment requirements. - Demonstrate the process of applying the necessary treatment on the soil as per the requirement. - Demonstrate the process of applying fertilizers, farmyard manure or compost uniformly on the field in the recommended quantity. - Show how to puddle the field for the recommended duration of time. - Show how to level the field using an appropriate implement. - Demonstrate the process of carrying out pre-sowing treatment of the seeds. - Demonstrate the process of sowing seeds in the seedbed, poly bags and containers at the recommended depth.

	• Demonstrate the process of applying the recommended quantity of water and manure/ fertilizer on the sown seeds as per the SOP.
	• Demonstrate how to acclimatise the saplings before transplanting.
	• Show how to extract stems of the recommended specifications from the plant.
	• Show how to cover the stem / tip / trunk of the plant with soil according to the selected method.
	• Demonstrate the process of applying the recommended quantity of water and fertilizer to support the growth of roots.
	• Demonstrate the process of applying the approved pesticides/ insecticides to protect the plants from pests and diseases.
	• Demonstrate the process of maintaining the record of nursery operations.

Classroom Aids

Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Hose pipes, Shears, Loppers, Weeder, Hedge cutters, Sickle, Pit for dry leaves, Water pumps & equipment, Green house /shade house, Watering timers & controllers, Hand gloves, Sprinklers, Spade, Perforated poly bags, Pots, Water cans, Hand cutter, Knapsack sprayers, Different types of seeds, Bulbs, Trowel, Plant seedlings/cuttings, Seedling trays, Rake, Baskets, Hoe, Weedicides, Plant labels, Fertilizers, Khurpi, Mask, Safety boots, First aid kit, Installed Video camera with high resolution and recording facility, Broom, Pesticides, Axe, Jute & pvc bags

Module 3: Process of raising, maintaining, transplanting and harvesting seedlings

Mapped to ARG/N0820 v2.0

Terminal Outcomes:

- Explain the process of preparing to raise seedlings.
- Describe the process of raising seedlings for transplantation.
- Describe the process of carrying out harvesting and post-harvesting activities.
- Describe the process of transplanting the seedlings.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the applicable record-keeping requirements. - Explain the correct use of the relevant nursery tools, implements and PPE. - List various inputs required in nursery operations such as different types of fertilizers, pesticides, containers, poly bags, etc. - State the depth recommended for planting different varieties of plant seeds in containers/ poly bags/ germination beds. - List various inputs required in nursery operations such as different types of fertilizers, pesticides, containers, poly bags, etc. - State the appropriate level of moisture and temperature to aid germination of seeds. - Explain the recommended quantity and correct way of applying insecticides/ pesticides on seedlings. - Describe different practices to protect seedlings from excessive heat/ cold and strong winds. - Explain the conditions required for the healthy growth of seedlings. - List various inputs required in nursery operations such as different types of fertilizers, pesticides, containers, poly bags, etc. - Describe the correct method of	- Demonstrate how to sort out the seeds of poor quality. - Demonstrate the process of preparing the correct mixture of soil and manure/ fertilizer. - Demonstrate the process of preparing the containers/ poly bags/ germination beds of the appropriate size for planting seeds. - Show how to fill in the containers/ poly bags with the prepared soil. - Demonstrate the process of planting seeds in containers/ poly bags/ germination beds at the depth recommended for the seed variety. - Demonstrate the process of applying the recommended quantity of fertilizers and insecticides on seedlings while protecting them from damage. - Show how to remove dead and unhealthy seedlings as per the Standard Operating Procedure (SOP). - Demonstrate the process of harvesting seedlings at their appropriate stage of growth. - Show how to pack the flowers appropriately in cardboard boxes for being transported. - Demonstrate the process of preparing the appropriate type of nursery bed such as sunken bed, level bed, raised bed for transplantation of

harvesting and transplanting seedlings. • Describe post-harvest processing of flowers.	seedlings. • Show how to create holes of the recommended dimensions in the soil. • Show how to plant the seedlings in the holes and fill them with soil. • Demonstrate the process of applying mulch or compost around the seedlings. • Demonstrate the process of maintaining the record of seedlings transplanted in the nursery.

Classroom Aids

Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Hose pipes, Shears, Loppers, Weeder, Hedge cutters, Sickle, Pit for dry leaves, Water pumps & equipment, Green house /shade house, Watering timers & controllers, Hand gloves, Sprinklers, Spade, Perforated poly bags, Pots, Water cans, Hand cutter, Knapsack sprayers, Different types of seeds, Bulbs, Trowel, Plant seedlings/cuttings, Seedling trays, Rake, Baskets, Hoe, Weedicides, Plant labels, Fertilizers, Khurpi, Mask, Safety boots, First aid kit, Installed Video camera with high resolution and recording facility, Broom, Pesticides, Axe, Jute & pvc bags

Module 4: Process of assisting in managing plant health and nursery operations

Mapped to AGR/N0821 v2.0

Terminal Outcomes:

- Elucidate ways to manage the nutrient requirements of plants.
- Elucidate ways to protect plants from pests and diseases.
- Explain the process of assisting in managing nursery operations.

Duration: 40:00	Duration: 50:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of customer-centric approach and customer-service skills. - Discuss various plant health and pest/ disease management practices. - Explain different types of plant growth regulators and their correct use. - Describe basic repair and maintenance process of nursery infrastructure. - Explain the importance of following environmental and ecological best practices to minimise the impact on the environment.	- Demonstrate the process of applying the appropriate plant growth regulators such as absicisic acid, gibberellins, cytokinins, ethylene using the recommended application method. - Demonstrate the process of applying fertilizers and water on the plants with the recommended quantity at appropriate intervals. - Demonstrate the process of carrying out trimming and pruning of the plants as per the instructions received. - Demonstrate the process of applying the relevant treatment to free the plants from the identified pests/ diseases. - Prepare sample record of the insecticides/ pesticides used on plants. - Show how to remove the sources of mosquito breeding. - Demonstrate the process of carrying out treatment of waste water as per instructions from the supervisor. - Demonstrate the process of carrying out basic repair and maintenance of the nursery infrastructure, tools and implements. - Prepare sample records such as use of plant growth regulators/ fertilizers/ pesticides, plant growth, sales and payments.

Classroom Aids
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements
Hose pipes, Shears, Loppers, Weeder, Hedge cutters, Sickle, Pit for dry leaves, Water pumps & equipment, Green house /shade house, Watering timers & controllers, Hand gloves, Sprinklers, Spade, Perforated poly bags, Pots, Water cans, Hand cutter, Knapsack sprayers, Different types of seeds, Bulbs, Trowel, Plant seedlings/cuttings, Seedling trays, Rake, Baskets, Hoe, Weedicides, Plant labels, Fertilizers, Khurpi, Mask, Safety boots, First aid kit, Installed Video camera with high resolution and recording facility, Broom, Pesticides, Axe, Jute & pvc bags

Module 5: Process of preparing to set up the garden
Mapped to AGR/N0802 v2.0

Terminal Outcomes:

- Explain the process of planning to set up the garden.
- Elucidate ways to arrange the necessary resources.

Duration: 15:00	Duration: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain various parameters to assess while conducting a site survey before establishing a garden. - List the suitable soil and climate conditions for setting up a garden. - Explain varieties of trees, plants, grass, shrubs, hedges and edges used in gardens. - List variety of material required for setting up a garden such as plants, shrubs, fertilizers, pesticides, tools, equipment, Personal Protective Equipment (PPE), etc. - Explain the importance of conducting a soil test before planting a garden and applying the necessary soil treatment to improve the quality of soil. - Discuss basic practices related to maintaining the record of purchase and payments.	- Roleplay how to conduct a survey of the site proposed for setting up the garden. - Show how to calculate the spacing between plants/ trees/ shrubs and rows as per their variety and available land area. - Show how to prepare the layout of the garden based on the assessment of client requirements. - Demonstrate the process of maintaining the record of purchase.

Classroom Aids
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements
Hose pipes, Shears, Loppers, Weeder, Hedge cutters, Sickle, Pit for dry leaves, Water pumps & equipment, Green house /shade house, Watering timers & controllers, Hand gloves, Sprinklers, Spade, Perforated poly bags, Pots, Water cans, Hand cutter, Knapsack sprayers, Different types of seeds, Bulbs, Trowel, Plant seedlings/cuttings, Seedling trays, Rake, Baskets, Hoe, Weedicides, Plant labels, Fertilizers, Khurpi, Mask, Safety boots, First aid kit, Installed Video camera with high resolution and recording facility, Broom, Pesticides, Axe, Jute & pvc bags

Module 6: Process of setting up the garden as per the plan
Mapped to AGR/N0803 v2.0

Terminal Outcomes:

- Explain the process of preparing the field for planting.
- Describe the process of planting the garden.
- Describe the process of setting up garden features and irrigation or fertigation system.
- Describe the process of preparing the flower bed.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the correct method and depth of tilling a field for gardening. - List various material used for treating garden soil. - Explain the importance of having effective drainage in the garden. - Describe the process of preparing a nursery bed. - Explain different garden features and their installation process. - Explain the importance of following environmental and ecological best practices to minimise the impact on the environment.	- Show how to remove all roots, debris and waste material from the land. - Demonstrate the process of applying the necessary treatment on the soil such as relevant chemicals, peat, lime, manure, compost, etc. - Show how to remove weeds from the land. - Show how to prepare rows and holes for planting seeds/ plants as per the planned layout. - Demonstrate the process of planting trees/ plants/ shrubs/ grass/ hedges and edges in the selected pattern maintaining the required spacing. - Demonstrate the process of applying soil cover on the planted roots of the trees/ plants/ shrubs/ grass/ hedges and edges. - Demonstrate the process of apply an appropriate type of fertilizer/ manure/ mulch on the roots of the hedges and edges. - Demonstrate the process of installing supports for the relevant types of plants to help them grow as intended. - Show how to erect fences around the garden to protect it from animals. - Show how to sort out damaged and unhealthy seeds. - Demonstrate the process of planting the seeds as per the SOP. - Show how to prepare potting mixture

	using the recommended ingredients.
	• Demonstrate the process of planting the vegetables and fruit plants.
	• Demonstrate the process of carrying out potting and repotting for the optimum growth of potted plants.
	• Demonstrate the process of setting up appropriate irrigation system such as drip irrigation, sprinkler irrigation, subsurface irrigation.
	• Demonstrate the process of installing fertigation system as per the requirement.
	• Demonstrate the process of installing various garden features such as walkways, statues, fountain as per the layout.
	• Show how to remove any existing grass/ plants/ debris from the spot.
	• Show how to till the soil to the recommended depth.
	• Demonstrate the process of preparing the flower bed as per the Standard Operating Procedure (SOP).
	• Demonstrate the process of planting flowering plants such as bulbs, orchids, succulents, cacti in combination with bedding plants.

Classroom Aids

Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Hose pipes, Shears, Loppers, Weeder, Hedge cutters, Sickle, Pit for dry leaves, Water pumps & equipment, Green house /shade house, Watering timers & controllers, Hand gloves, Sprinklers, Spade, Perforated poly bags, Pots, Water cans, Hand cutter, Knapsack sprayers, Different types of seeds, Bulbs, Trowel, Plant seedlings/cuttings, Seedling trays, Rake, Baskets, Hoe, Weedicides, Plant labels, Fertilizers, Khurpi, Mask, Safety boots, First aid kit, Installed Video camera with high resolution and recording facility, Broom, Pesticides, Axe, Jute & pvc bags

Module 7: Hygiene and cleanliness

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Discuss how to adhere to personal hygiene practices.
- Demonstrate ways to ensure cleanliness around the workplace.

Duration: 02:00	Duration: 10:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the requirements of personal health, hygiene and fitness at work. - Describe common health-related guidelines laid down by the organizations/ Government at the workplace - Explain the importance of good housekeeping at the workplace. - Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases.	- Demonstrate personal hygiene practices to be followed at the workplace. - Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. - Demonstrate the steps to follow to put on and take off a mask safely. - Show how to sanitize and disinfect one's work area regularly. - Demonstrate adherence to workplace sanitization norms. - Show how to ensure the cleanliness of the work area.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

Module 8: Safety and emergency procedures
Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Describe how to adhere to safety guidelines.
- Show how to administer appropriate emergency procedures.

Duration: 03:00	Duration: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List the Personal Protective Equipment (PPE) required at the workplace. - Describe the commonly reported hazards at the workplace. - Describe the hazards caused due to chemicals/pesticides/fumigants. - Describe the basic safety checks to be done before the operation of any equipment/machinery. - Describe the common first aid procedures to be followed in case of emergencies. - State measures that can be taken to prevent accidents and damage s at the workplace. - Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures - State common health and safety guidelines to be followed at the workplace.	- Check various areas of the workplace for leakages, water-logging, pests, fire, etc. - Demonstrate how to safely use the PPE and implement it as applicable to the workplace. - Display the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits, etc. - Sanitize the tools, equipment and machinery properly. - Demonstrate the safe disposal of waste. - Demonstrate procedures for dealing with accidents, fires and emergencies. - Demonstrate emergency procedures to the given workplace requirements. - Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements. - Demonstrate the administration of first aid. - Prepare a list of relevant hotline/ emergency numbers
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, First Aid Kit, Equipment used in Medical Emergencies.	

Module 9: Employability Skills

Mapped to NOS DGT/VSQ/N0102 v1.0

Duration: 60:00
Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:
1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours
3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours
5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours
8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting Duration: 2 Hours
11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours
12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours
15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy Duration:5 Hours
17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Module 10: On-the-Job Training

Mapped to Gardener cum Nursery Raiser

Mandatory Duration: 30:00	Recommended Duration: 00:00
Location: On-Site	

Terminal Outcomes

- Explain various types of seedbeds such as raised/ level/ sunken.
- Construct the shade net house, store-room, compost area, etc.
- Apply fertilizers, farmyard manure or compost uniformly on the field in the recommended quantity.
- Plant seeds in containers/ poly bags/ germination beds at the depth recommended for the seed variety.
- Harvest seedlings at their appropriate stage of growth.
- Harvest seedlings at their appropriate stage of growth.
- Carry out basic repair and maintenance of the nursery infrastructure, tools and implements.
- Prepare the layout of the garden based on the assessment of client requirements.
- Plant trees/ plants/ shrubs/ grass/ hedges and edges in the selected pattern maintaining the required spacing.
- Install various garden features such as walkways, statues, fountains as per the layout.
- Prepare the flower bed as per the Standard Operating Procedure (SOP).

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
10th class	class 10th	7	Gardening & Nursery Management	0		Gardener cum Nursery Raiser with 7 Years of experience with Government/ civic authority/ registered nursery/ corporates
12th Class	Class 12th	4	Gardening & Nursery Management	0		Ex-Service-Man including Ex-Paramilitary personnel: Minimum Qualification is 10+2 with an Honourable Discharge/ Pension. SSC would consider a relaxation/ waiver of sector-specific experience on a case-to-case basis.
Diploma	Diploma (landscaping/ Agriculture/ Horticulture)	3	Gardening & Nursery Management	0		
Graduate	Graduate	2	Gardening & Nursery Management	0		For the school Program minimum qualification of the Trainer should be Graduate. Their Teaching experience will be considered industry experience
Graduate	Graduate (Agriculture / Horticulture / Forestry)	0.5	Gardening & Nursery Management	0		

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**Gardener cum Nursery Raiser**", mapped to QP: "AGR/Q0809, v2.0", Minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: "Trainer (Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites							
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduation	B.Sc (Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams)	5	Agriculture/ Forestry/ Horticulture and related experience	0		Practical skills and knowledge required in the care and management of garden & nursery operations
Post-graduation	M.Sc (Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams)	2	Agriculture/ Forestry/ Horticulture and related experience	0		Practical skills and knowledge required in the care and management of garden & nursery operations
PhD	Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams	1	Agriculture/ Forestry/ Horticulture and related experience	0		Practical skills and knowledge required in the care and management of garden & nursery operations

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**Gardener cum Nursery Raiser**", mapped to QP: "AGR/Q0809, v2.0", Minimum accepted score is 80%	Certified for the Job Role: "Assessor (Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0", with a minimum score of 80%.

Assessment Strategy

Assessment System Overview

In Agriculture Sector it is of ultimate importance that individuals dealing with crop production or livestock have the requisite knowledge and competencies to undertake the task. Based on the Assessment Criteria, SSC in association with empaneled AAs, define the test structure for the given job roles to cover the required skills and competencies. Assessment strategy consists of the following:

1. <u>Multiple Choice Questions</u>: To assess basic knowledge (Objective/Subjective)
2. <u>Viva:</u> To assess awareness on processes (Oral and/or written questioning)
3. <u>Practical:</u> To evaluate skills and identify competencies. (Observation)

Assessments for knowledge and awareness on processes may be conducted through 'real-time' internet-based evaluation or by conducting the same 'offline' through TABs. Skills and competencies are to be assessed by conducting 'practical' on the ground through qualified and ToA certified assessors.

An individual must have adequate knowledge and skills to perform a specific task, weightage for different aspects of the assessment is given as follows:

- Multiple Choice Questions: 20%-30%, depending on the specific QP
- Viva: 20%
- Practical: 50% - 60% (Involves demonstrations of applications and presentations of procedures/tasks and other components)
- Assessment will be carried out by certified assessors through empaneled assessment partners. Based on the results of the assessment; ASCI will certify the learners/candidates

Testing Environment

Assessments are conducted on laptops, Mobiles and android tablets via both offline and online mode depending on the internet connectivity at the assessment location.

In remote locations/villages, assessments get delivered through tablets without the requirement of the Internet.

- Multilingual assessments (ASCI is conducting the assessments in 13 + languages pan India)
- Rubric driven assessments in Practical/Viva sections and responses recorded accordingly
- All responses, data, records and feedback stored digitally on the cloud
- Advanced auto-proctoring features – photographs, time-stamp, geographic-tagging, toggle- screen/copy-paste disabled, etc.
- Android-based monitoring system
- End to end process from allocation of a batch to final result upload, there is no manual intervention

- Assessment will normally be fixed for a day after the end date of the training / within 7 days of completion of training.

- Assessment will be conducted at the training venue

- The room where assessment is conducted will be set with proper seating arrangements with enough space to curb copying or other unethical activities

- Question bank of theory and practice will be prepared by ASCI /assessment agency and approved ASCI. Only from approved Question Bank assessment agency will prepare the question paper. Theory testing will include multiple-choice questions, pictorial questions, etc. which will test the trainee on his theoretical knowledge of the subject.

- The theory, practical and viva assessments will be carried out on the same day. In case of a greater number of candidates, the number of assessors and venue facilitation be increased and facilitated

Assessment			
Assessment Type	Formative or Summative	Strategies	Examples
Theory	Summative	MCQ/Written exam	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks/Demonstration	Practical application /Demonstration /Application tasks
Viva	Summative	Questioning and Probing	Mock interviews on the usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling the job situation

The question paper pre-loaded in the computer /Tablet and it will be in the language as requested by the training partner.

Assessment Quality Assurance framework

Assessment Framework and Design:

Based on the Assessment Criteria, SSC in association with AAs will define the test structure for the given roles to cover the required skills and competencies. ASCI offer a bouquet of tools for multi-dimensional evaluation of candidates covering language, cognitive skills, behavioural traits and domain knowledge.

Theoretical Knowledge - Item constructs and types are determined by a theoretical understanding of the testing objectives and published research about the item types and constructs that have shown statistical validity towards measuring the construct. Test item types that have been reported to be coachable are not included. Based on these, items are developed by domain experts. They are provided with comprehensive guidelines of the testing objectives of each question and other quality measures.

Type – Questions based on Knowledge Required, Case-based practical scenario questions and automated simulation-based questions.

Practical Skills - The practical assessments are developed taking into consideration two aspects: what practical tasks is the candidate expected to perform on the job and what aspects of the job cannot be judged through theoretical assessments. The candidates shall be asked to perform either an entire task or a set of subtasks depending on the nature of the job role

Type – Standardized rubrics for evaluation against a set of tasks in a demo/practical task

Viva Voce - Those practical tasks which cannot be performed due to time or resource constraints are evaluated through the viva mode. Practical tasks are backed up with Viva for thorough assessment and complete evaluation

Type – Procedural questions, dos and don'ts, subjective questions to check the understanding of practical tasks.

The assessor has to go through an orientation program organized by the Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. The assessor shall be given a NOS and PC level overview of each QP as applicable. The overall structure of assessment and objectivity of the marking scheme will be explained to them. The giving of marks will be driven by an objective framework that will maintain the standardization of the marking scheme.

Type of Evidence and Evidence Gathering Protocol:

During the assessment the evidence collected by AAs and ASCI are:

- GeoTagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidence (photos and videos) to the assessor one day before the assessment. The list is mentioned below:
  - o Signed Attendance sheet
  - o Assessor feedback sheet

- o Candidate feedback sheet
- o Assessment checklist for assessor
- o Candidate Aadhar/ID card verification
- o Pictures of the classroom, labs to check the availability of adequate equipment's and tool to conduct the training and assessment
- o Pictures and videos of Assessment, training feedback and infrastructure.

- • Apart from the Assessor, a Technical assistant is popularly known as Proctor also ensures the proper documentation and they verify each other's tasks.

- • To validate their work on the day of the assessment, regular calls and video calls are done.

- • On-boarding and training of assessor and proctor is done on a timely basis to ensure that the quality of the assessment should be maintained.

- • Training covers the understanding of QP, NSQF level, NOS and assessment structure

Methods of Validation

- • Morning Check (Pre-Assessment): Backend team of AA calls and confirms assessor/technical SPOC event status. Assessor/Technical SPOC are instructed to reach the centre on time by 9:30 AM / as decided with TC and delay should be highlighted to the Training Partner in advance.

- • Video Calls: Random video calls are made to the technical SPOC/assessor so as to keep a check on assessment quality and ensure assessment is carried out in a fair and transparent manner

- • Aadhar verification of candidates

- • Evening Check (Post Assessment): Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.

- • TP Calling: To keep a check on malpractices, an independent audit team calls the TP on a recorded line to take confirmation if there was any malpractice activity observed in the assessment on part of the AA/SSC team. If calls are not connected, an email is sent to TP SPOC for taking their confirmation

- • Video and Picture Evidence: Backend team collects video and pictures for assessment on a real-time basis and highlights any issue such as students sitting idle/ trainer helping the candidates during the assessment.

- • Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and conduct a surprise audit for the assessment carried out by the ground team.

- • Geo Tagging: On the day of the assessment, each technical SPOC is required to login into our internal app which is Geotagged. Any deviation with the centre address needs to be highlighted to the assessment team on a real-time basis.

Method for assessment documentation, archiving, and Access:

- • ASCI have a fully automated result generation process in association with multiple AAs

- • Theory, Practical and Viva marks form the basis of the results and encrypted files generated to avoid data manipulation. All responses were captured and stored in the

System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.

- Maker Checker concept: One person prepares the results and another audit result which is internally approved by AA at first and then gets vetted at the end of SSC

- All softcopies of documents are received from the on-ground tech team over email. The same is downloaded by our internal backend team and saved in Repository. The repository consists of scheme-wise folders. These scheme-wise folders have two job role-specific folders. These specific folders have Year wise and Month wise folders where all documents are saved in Batch specific folders. All Hard copies are filed and stored in the storeroom.

Result Review & Recheck Mechanism –

- Time-stamped assessment logs

- Answer/Endorsement sheets for each candidate

- Attendance Sheet

- Feedback Forms: Assessor feedback form, Candidate feedback form, TP feedback form

- The results for each of the candidate shall be stored and available for review (retained for 5 years/ till the conclusion of the project or scheme)

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
AGR	Agriculture
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment