







Model Curriculum

QP Name: Garden-Keeper

QP Code: AGR/Q0814

Version: 1.0

NSQF Level: 2

Model Curriculum Version: 1.0

Agriculture Skill Council of India || Unit No. 101, First Floor, Greenwoods Plaza,

Block 'B', Greenwoods City, Sector 45, Gurugram -122009, Haryana.







Table of Contents

Training Parameters	3
Program Overview	4
Training Outcomes	4
Compulsory Modules	4
Nodule 1: Introduction to the role of a Garden-Keeper	6
Nodule 2: Propagation of plants in a nursery	7
Nodule 3: Process of establishing the garden	8
Nodule 4: Maintenance of the garden	9
Nodule 5: Process of designing, setting up and maintaining a rooftop garden	10
Nodule 6: Employability Skills (30 hours)	11
Annexure	13
Trainer Requirements	13
Assessor Requirements	14
Assessment Strategy	16
References	21
Glossary	21
Acronyms and Abbreviations	22







Training Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, Gardening & Urban Farming
Country	India
NSQF Level	2
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6113.0301
Minimum Educational Qualification and Experience	No formal education
Pre-Requisite License or Training	NA
Minimum Job Entry Age	NA
Last Reviewed On	29/09/2023
Next Review Date	29/09/2026
NSQC Approval Date	29/09/2023
QP Version	1.0
Model Curriculum Creation Date	29/08/2023
Model Curriculum Valid Up to Date	29/09/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	210 Hours
Maximum Duration of the Course	210 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:

- Demonstrate the process of raising saplings in the nursery for transplanting in the garden.
- Demonstrate the process of setting up the garden as per a plan.
- Demonstrate the process of carrying out maintenance of the garden.
- Demonstrate the process of designing, setting up and maintaining a rooftop garden.

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	
AGR/N0852: Prepare saplings for transplanting in the garden NOS Version- 1.0 NSQF Level- 2	25:00	35:00	0:00	0:00	60:00	
Module 1: Introduction to the role of a Garden-Keeper	5:00	0:00	0:00	0:00	5:00	
Module 2: Propagation of plants in a nursery	20:00	35:00	0:00	0:00	55:00	
AGR/N0853: Set the garden as per the plan NOS Version- 1.0 NSQF Level- 2	10:00	20:00	0:00	0:00	30:00	
Module 3: Process of establishing the garden	10:00	20:00	0:00	0:00	30:00	
AGR/N0854: Undertake maintenance of the garden NOS Version- 1.0 NSQF Level- 2	20:00	40:00	0:00	0:00	60:00	
Module 4: Maintenance of the garden	20:00	40:00	0:00	0:00	60:00	
AGR/N0855: Setup and maintain a rooftop garden NOS Version- 1.0 NSQF Level- 2	15:00	15:00	0:00	0:00	30:00	







Module 5: Process of designing, setting up and maintaining a rooftop garden	15:00	15:00	0:00	0:00	30:00
DGT/VSQ/N0101 Employability Skills NOS Version- 1.0 NSQF Level- 2	30:00	00:00	0:00	0:00	30:00
Module 6: Employability Skills	30:00	00:00	0:00	0:00	30:00
Total Duration	100:00	110:00	0:00	0:00	210:00







Module Details

Module 1: Introduction to the role of a Garden-Keeper

Bridge Module, Mapped to AGR/N0852 v1.0

Terminal Outcomes:

• State the role and responsibilities of a Garden-Keeper.

Duration: 05:00	Duration: 00:00					
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes					
 Describe the size and scope of the agriculture industry and its subsectors. 						
 Discuss the role and responsibilities of a Garden Raiser. 						
 Identify various employment opportunities for a Garden Keeper. 						
Classroom Aids						
Training kit - Trainer guide, Presentations, Whiteboard, Marker, projector, laptop						
Tools, Equipment and Other Requirements						
NA						







Module 2: Propagation of plants in a nursery

Mapped to AGR/N0852 v1.0

Terminal Outcomes:

- Describe different methods of plant propagation.
- Demonstrate the process of propagating plants through different propagation methods.

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
 Theory – Key Learning Outcomes List different types of plants grown in gardens according to the season. Describe different methods of propagating plants in a nursery. List various inputs required for propagating plants in a nursery. Describe the process of preparing a nursery bed and seedbed. Describe the process of constructing framed structures such as polytunnels, hardening chamber, mist chamber for plant propagation. 	 Practical – Key Learning Outcomes Demonstrate the process of preparing the nursery bed. Demonstrate the process of preparing farmyard manure or compost. Demonstrate the use of relevant nursery tools and equipment. Show how to sort out and treat the seeds before sowing them. Demonstrate the process of preparing the raised, level or sunken seedbed.
•	 Show how to acclimatise the saplings before transplanting them. Demonstrate the process of propagating plants through cutting, root division, layering, and budding methods. Prepare a sample record of nursery operations.
Classroom Aids	

Training kit (Trainer guide, Presentations). Whiteboard, Marker, projector, laptop

Tools, Equipment and Other Requirements

Seedling Tray, sacks, polythene, watering cans and equipment, shade net, greenhouse, shade house, plant labels, labellers, spade, khurpi







Module 3: Process of establishing the garden

Mapped to AGR/N0853 v1.0

Terminal Outcomes:

- Describe the process of planting a garden.
- Demonstrate the process of preparing the field for planting.
- Demonstrate the process of setting up various garden features, and irrigation and fertigation systems.

 Practical – Key Learning Outcomes Demonstrate the process of preparing the field for planting.
 Demonstrate the process of planting trees, plants, shrubs, grass, hedges, edges, vegetables and fruit plants.
 Show how to apply fertilizers, manure and mulch.
• Demonstrate the process of setting up different types of irrigation system
such as drip irrigation, sprinkler irrigation, subsurface irrigation.
 Demonstrate the process of installing a fertigation system.
 Show how to set up various garden features such as walkways, statues, and fountain.
 Demonstrate the process of preparing a flower bed.

Tools, Equipment and Other Requirements

Hedge cutter, shears, loppers, sprayers, plant labels, pesticides, weedicides, fertilizers, water pumps and equipment, watering timers, and controllers







Module 4: Maintenance of the garden

Mapped to AGR/N0854 v1.0

Terminal Outcomes:

- Describe the process of performing nutrition, pest and disease management for a variety of garden plants.
- Demonstrate the process of performing nutrition, pest and disease management for a variety of garden plants.
- Demonstrate the process of carrying out training, pruning, and mowing in a garden.
- Demonstrate the process of carrying out maintenance of the irrigation and fertigation system.
- Demonstrate the process of carrying out maintenance of garden features.

Duration: 20:00	Duration: 40:00			
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes			
 Describe the use of different types of fertilizers, pesticides, and insecticides. Explain macro and micronutrient 	 Show how to assess various garden plants, trees, shrubs, hedges and edges for the presence of pests and diseases. 			
management of various types of horticultural plants, trees, shrubs, hedges and edges.	 Demonstrate the process of applying different types of insecticides and pesticides using the relevant Personal Desta time Environment (DDE) 			
 Describe the process of training and pruning a variety of plants, trees, shrubs, hedges and edges. 	 Protective Equipment (PPE). Prepare a sample record of insecticides and pesticides used in the product 			
 Describe the process of carrying out repair and maintenance of different types of irrigation and fertigation systems. 	 garden. Demonstrate the process of training and pruning different types of plants, trees, shrubs, hedges and edges. 			
 Describe various weed control methods. 	 Demonstrate the process of carrying out regular repair and maintenance of the irrigation or fertigation installed in the garden. 			
	• Show how to maintain a variety of garden features.			
Classroom Aids				

Training kit (Trainer guide, Presentations)

Tools, Equipment and Other Requirements

Kassi / Spade, Khurpi, Weeder, Side shear, Broom, Rake, Watering Can, Hand hose, Bucket, Plant Pruner, Wheel Barrow, Hand Sprayer, Budding & Grafting Set, Earthen Pots, Hedge Cutter, Polythene Bags (Garbage), Seed Packets, Gunny bags, Tags-labels, Budding-tape, Sutli, Moss-grass, etc.







Module 5: Process of designing, setting up and maintaining a rooftop garden

Mapped to AGR/N0855 v1.0

Terminal Outcomes:

- Discuss various parameter to assess for setting up a rooftop garden.
- Demonstrate the process of setting up the rooftop garden.
- Describe the process of carrying out the repair and maintenance of a rooftop garden.

Tools, Equipment and Other Requirements

Kassi / Spade, Khurpi, Weeder, Side shear, Broom, Rake, Watering Can, Hand hose, Bucket, Plant Pruner, Wheel Barrow, Hand Sprayer, Budding & Grafting Set, Earthen Pots, Hedge Cutter, Polythene Bags (Garbage), Seed Packets, Gunny bags, Tags-labels, Budding-tape, Sutli, Moss-grass, etc.







Module 6: Employability Skills (30 hours) Mapped to NOS DGT/VSQ/N0101 v1.0

Duration: 30:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 1 Hour

After completing this programme, participants will be able to:

1. Discuss the importance of Employability Skills in meeting the job requirements

Constitutional values - Citizenship Duration: 1 Hour

2. Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.

3. Show how to practice different environmentally sustainable practices

Becoming a Professional in the 21st Century Duration: 1 Hours

4. Discuss 21st century skills.

5. Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.

Basic English Skills Duration: 2 Hours

6. Use appropriate basic English sentences/phrases while speaking

Communication Skills Duration: 4 Hour

7. Demonstrate how to communicate in a well -mannered way with others.

8. Demonstrate working with others in a team

Diversity & Inclusion Duration: 1 Hour

Show how to conduct oneself appropriately with all genders and PwD
 Discuss the significance of reporting sexual harassment issues in time

Financial and Legal Literacy Duration: 4 Hours

11. Discuss the significance of using financial products and services safely and securely.

12. Explain the importance of managing expenses, income, and savings.

13. Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws

Essential Digital Skills Duration: 3 Hours

14. Show how to operate digital devices and use the associated applications and features, safely and securely

15. Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely

Entrepreneurship Duration: 7 Hours

16. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges

Customer Service Duration: 4 Hours

17. Differentiate between types of customers

18. Explain the significance of identifying customer needs and addressing them







19. Discuss the significance of maintaining hygiene and dressing appropriately

Getting ready for apprenticeship & Jobs Duration: 2 Hours

- 20. Create a biodata
- 21. Use various sources to search and apply for jobs
- 22. Discuss the significance of dressing up neatly and maintaining hygiene for an interview
- 23. Discuss how to search and register for apprenticeship opportunities







Annexure

Trainer Requirements

	Trainer Prerequisites							
Minimum Educational	Specialization		ant Industry ience	Training Experience		Remarks		
Qualification		Years	Specialization	Years	Specialization			
10th Class		7	Gardening / Landscaping	0		Nursery Worker with 7 Years' experience with Government / civic authority / registered nursery/ corporates		
12th Class		4	Gardening / Landscaping	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	landscaping/ Agriculture/ Horticulture	3	Gardening / Landscaping	0				
Graduate	In any stream	2	Gardening / Landscaping	0		For the school Program minimum qualification of the Trainer should be Graduate. Their Teaching experience will be considered industry experience		
Graduate	Agriculture / Horticulture/ Forestry	0.5	Gardening / Landscaping	0				

Trainer Certification					
Domain Certification	Platform Certification				
Certified for Job Role " Garden-Keeper ", mapped to QP: "AGR/Q0814, v1.0", 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	Specialization	Relevar Experie	nt Industry nce	Trainiı Experi	ng/Assessment ence	Remarks	
Qualification		Years	Specialization	Years	Specialization		
12th	Science stream	7	Agriculture / Forestry / Horticulture and related experience and fields	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.	
PhD	Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related experiences	1	Agriculture / Forestry / Horticulture and related experience and fields	0		Practical skills and knowledge required in various tasks of gardening	
Diploma	Landscaping/ Agriculture/ Horticulture	7	Agriculture / Forestry / Horticulture and related experience and fields	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.	
M.Sc	Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams	2	Agriculture / Forestry / Horticulture and related experience and fields	0		Practical skills and knowledge required in various tasks of gardening	







B.Sc	Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related experiences	Agriculture / Forestry / Horticulture and related experience and fields	0		Practical skills and knowledge required in various tasks of gardening	
------	---	--	---	--	--	--

Assessor Certification					
Domain Certification	Platform Certification				
"Garden-Keeper", "AGR/Q0814, v1.0", 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 empanelled 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.

While it is important that an individual has adequate knowledge and skills to perform a specific task, weightage for different aspects of assessment are 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 empanelled 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 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 practical 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 question, 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 more 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 multidimensional 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 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:

- Geo Tagging 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:
 - Signed Attendance sheet
 - Assessor feedback sheet
 - Candidate feedback sheet
 - Assessment checklist for assessor
 - Candidate Aadhar/ID card verification
 - Pictures of the classroom, labs to check the availability of adequate equipment's and tool to conduct the training and assessment
 - Pictures and videos of Assessment, training feedback and infrastructure.
- Apart from the Assessor, a Technical assistant 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

- <u>Morning Check (Pre-Assessment)</u>: 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.
- <u>Video Calls</u>: 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
- <u>Aadhar verification</u> of candidates







- <u>Evening Check (Post Assessment)</u>: Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.
- <u>TP Calling</u>: 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 the TP SPOC for taking their confirmation
- <u>Video and Picture Evidence</u>: 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.
- <u>Surprise Visit:</u> 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.
- <u>Geo Tagging</u>: 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 has 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 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 are downloaded by our internal backend team and saved in Repository. The repository consists of scheme-wise folders. These scheme-wise folders have 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	
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	
Key Learning	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).	
(M) TLO	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	
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
TLO	On-the-job Training
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment