QUALIFICATION FILE

Master Gardener

☒ **Short Term Training (STT)** ☐ **Long Term Training (LTT)** ☐ **Apprenticeship**

☐ **Upskilling** ☐ **Dual/Flexi Qualification** ☐ **For ToT** ☐ **For ToA**

☒**General** ☐ **Multi-skill (MS)** ☐ **Cross Sectoral (CS)** ☐ **Future Skills** ☐ **OEM**

NCrF/NSQF Level: 4

Submitted By:

Agriculture Skill Council of India

Unit No. 101, First Floor, Greenwoods Plaza, Block 'B', Greenwoods City, Sector 45, Gurugram -122009, Haryana.

Table of Contents

Section 1: Basic Details

1.	**Qualification Name**	**Master Gardener**	
2.	**Sector/s**	**Agriculture**	
3.	**Type of Qualification:** ☐ **New** ☒ **Revised** ☐ **Has Electives/Options** ☐**OEM**	**NQR Code & version of existing qualification:** 2022/AGR/ASCI/06545 & Version 3.0	**Qualification Name of existing/previous version:** Gardener
4.	a. **OEM Name** b. **Qualification Name** (*Wherever applicable*)	**NA**	
5.	**National Qualification Register (NQR) Code &Version** (*Will be issued after NSQC approval*)	QG-04-AG-02604-2024-V2-ASCI	**6. NCrF/NSQF Level:** *4*
7.	**Award (Certificate/Diploma/Advance Diploma/ Any Other)** (*Wherever applicable specify multiple entry/exits also & provide details in annexure*)	Certificate	
8.	**Brief Description of the Qualification**	A Master Gardener is responsible for planting and maintaining lawns and gardens in private and public properties such as homes, parks and hotels. The individual uses a variety of tools and equipment for this purpose and carries out their basic repair and maintenance also	

9.	**Eligibility Criteria for Entry for Student/Traine`e/Learner/Employee**	a. **Entry Qualification & Relevant Experience:**

S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	12th or Equivalent	
2	10th Class	3-year of relevant experience in Agriculture and allied sectors
3	Previous relevant qualification of NSQF Level 3.5 with minimum education as 5th grade pass	1.5 Years of relevant experience in Agriculture and allied sectors
4	Previous relevant qualification of NSQF Level 3 with minimum education as 5th grade pass	3 Years of relevant experience in Agriculture and allied sectors

b. **Age:** 18

10.	**Credits Assigned to this Qualification, Subject to Assessment** (*as per National Credit Framework (NCrF)*)	13	**11. Common Cost Norm Category (I/II/III)** (*wherever applicable*): **II**

12.	Any Licensing requirements for Undertaking Training on This Qualification *(wherever applicable)*	NA					
13.	Training Duration by Modes of Training Delivery *(Specify **Total Duration** as per selected training delivery modes and as per requirement of the qualification)*	☒Offline ☐Online ☐Blended					

☒Offline ☐Online ☐Blended

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)
Classroom (offline)	180	150	60		390
Online					

(Refer Blended Learning Annexure for details)

14.	Aligned to NCO/ISCO Code/s *(if no code is available mention the same)*	NCO-2015/6113.0301
15.	Progression path after attaining the qualification *(Please show Professional and Academic progression)*	Master Gardener (L4), Supervisor-Garden/ Nursery (L5)
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	**Hindi**
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:
18.	Is the Job Role Amenable to Persons with Disability	☒ Yes ☐ No **If "Yes", specify applicable type of Disability:** SHI
19.	How Participation of Women will be Encouraged	**Batches specific to women will be formed**
20.	Are Greening/ Environment Sustainability Aspects Covered *(Specify the NOS/Module which covers it)*	☒ Yes ☐ No DGT/VSQ/N0102 (v1.0)
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☒ Yes ☐ No Colleges ☒ Yes ☐ No
22.	Name and Contact Details of Submitting / Awarding Body SPOC *(In case of CS or MS, provide details of both Lead AB & Supporting ABs)*	**Name: Mr Srikanth Pampana** **Email: Standards@asci-india.com** **Contact No.: 0124-4670029** **Website: www.asci-india.com**
23.	**Final Approval Date by NSQC:** 30/05/2024	**24. Validity Duration:** 3 years post NSQC Approval	**25. Next Review Date:** 30/05/2027

Section 2: Module Summary

NOS/s of Qualifications
(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory Pr.-Practical OJT-On the Job Man.-Mandatory Training Rec.-Recommended Proj.-Project

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1	Raise saplings in the nursery for transplanting in the garden	AGR/N0801 (v3.0)	Core	4	2	30	30			60	30	40		30	100	15
2	Prepare a plan to set up the garden	AGR/N0802 (v2.0)	Core	4	1	15	15			30	30	40		30	100	15
3	Set up the garden as per the plan	AGR/N0803 (v2.0)	Core	4	1	10	20			30	30	40		30	100	20
4	Carry out maintenance of the garden	AGR/N0842 (v1.0)	Core	4	2	20	40			60	30	40		30	100	20
5	Maintain health and safety at the workplace	AGR/N9903 (v4.0)	Non-Core	4	1	15	15			30	40	25	-	35	100	15
6	Design, set up and maintain a rooftop garden	AGR/N0843 (v1.0)	Core	4	2	30	30			60	30	40		30	100	10
7	Employability Skills (60 Hours)	DGT/VSQ/N 0102 (v1.0)	Non-Core	4	2	60				60	20	30			50	5
8	OJT (Mandatory)				2			60		60						
Duration (in Hours) / Total Marks					13	180	150	60		390	210	255		185	650	100

Assessment - Minimum Qualifying Percentage
*Please specify **any one** of the following:*

Minimum Pass Percentage – Aggregate at qualification level: 70 % *(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Master Gardener

Minimum Pass Percentage – NOS/Module-wise: ____**%** *(Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	10th Class with 7 years of relevant industry or training experience in Gardening/Landscaping, Gardener within Government/civic authority/registered nursery/corporates * OR 12th Class with 4 years of relevant industry or training experience in Gardening/Landscaping OR Ex-Service-Man including Ex-Paramilitary personnel: Minimum Qualification is 10+2 with an Honorable Discharge/Pension** **SSC would consider a relaxation/waiver of sector specific experience on case to case basis. OR Diploma in landscaping/Agriculture/Horticulture with 3 years of relevant industry or training experience in Gardening/Landscaping OR Graduation in any stream except Agriculture / Horticulture / Forestry with 2 years of relevant industry or training experience in Gardening/Landscaping*** ***For school Program minimum qualification of Trainer should be Graduate. Their Teaching experience will be considered industry experience OR B.Sc. in Agriculture / Horticulture / Forestry with 0.5 years of relevant industry or training experience in Gardening/Landscaping
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	5 years of training experience in Gardening/Landscaping after Graduation in any stream except Agriculture / Horticulture / Forestry with 2 years of relevant industry experience in Gardening/Landscaping OR 5 years of training experience in in Gardening/Landscaping after B.Sc. (Agriculture / Horticulture / Forestry) with 0.5 years of relevant industry experience in Gardening/Landscaping
3.	**Tools and Equipment Required for Training**	☒Yes ☐No *(If "Yes", details to be provided in Annexure)*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	NA

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	12th Class (Science stream) with 7 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields OR Diploma in Landscaping/ Agriculture/ Horticulture with 7 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields OR B.Sc. in Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams with 5 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields OR M.Sc. in Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams with 2 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields OR PhD in Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams with 1 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Diploma/Graduate (It is mandatory for a proctor to have technical knowledge/IT knowledge Once a proctor has been on-boarded by any AA, they are oriented about skill ecosystem along with do's and don'ts .)
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	M.Sc in Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams with 10 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields OR PhD (Agriculture/ Botany/ Forestry/ Horticulture/ Floriculture and related streams) with 10 years of relevant industry experience in Agriculture / Forestry / Horticulture and related experience and fields
4.	**Assessment Mode** *(Specify the assessment mode)*	**Offline**
5.	**Tools and Equipment Required for Assessment**	☒ Same as for training ☒ Yes ☐ No *(details to be provided in Annexure-if it is different for Assessment)*

Master Gardener

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	**Latest Skill Gap Study (not older than 2 years) (Yes/No):** Yes
2.	**Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):** No
3.	**Government /Industry initiatives/ requirement (Yes/No):** Government Initiative, part of PMKVY 4.0
4.	**Number of Industry validation provided:** 8
5.	**Estimated nos. of persons to be trained and employed:** 300
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:** Yes, have received concurrence from the Horticulture Division, MoA & FW

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	**Annexure:** NCrF/NSQF level justification based on NCrF level/NSQF descriptors *(Mandatory)*	Annexure-1
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	Annexure-2
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	Annexure-5
4.	**Annexure:** Assessment Strategy *(Mandatory)*	Annexure-6
5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	NA
6.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	NA
7.	**Annexure:** Acronym and Glossary *(Optional)*	
8.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	Annexure-7
9.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	Horticulture Supervisor (L5)
10.	**Supporting Document:** Occupational Map *(Mandatory)*	Annexure-8
11.	**Supporting Document:** Assessment SOP *(Mandatory)*	Annexure-9
12.	**Any other document you wish to submit:**	

Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level

Master Gardener

Professional Theoretical Knowledge/Process	• Prepare for nursery operations • Propagate saplings through seeds • Prepare the field for planting • Control weeds in the garden	A Gardener should have love and inclination for plants and nature and stamina to work for long duration in outdoor settings. The person must be able to work independently and take relevant decisions. Problem-solving skills along with basic reading, writing and communication skills are other important attributes required in this role.	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	• Carry out training, pruning and mowing • Perform plant nutrition management • Set up garden features and irrigation or fertigation system	A Gardener should have the knowledge for planting and maintaining lawns and gardens in private and public properties such as homes, parks and hotels.	4
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	• Propagation of plants through cutting, root division, layering and budding • Optimise resource utilisation • Perform waste management • Arrange the necessary resources	The Job holder should have professional skills including: Decision making, Planning and Organising, Customer centricity, Problem solving, Analytical Thinking, Critical thinking.	4
Broad Learning Outcomes/Core Skill	• Promote inclusion at the workplace • Arrange the necessary resources • Mentor apprentice • Administer appropriate emergency procedures	The job holder must have Core Skills which will include: Writing Skills, Reading Skills, Oral and Communication (Listening and Speaking).	4
Responsibility	• The job holder is required to hold responsibility for his/her own work and learning and full responsibility for other's work and learning. • ensure availability of all tools and equipment required for the demonstrations, demonstrate the operation • demonstrate the operation and explain key advantages of post-harvest equipment	A Gardener is responsible for planting and maintaining lawns and gardens in private and public properties such as homes, parks and hotels.	4

Master Gardener

	• demonstrate the process of carrying out minor repairs and periodical maintenance of agricultural machinery and equipment • provide information about safety procedures, protective devices required for operation, listen to workers, team members and farmers to know and • understand their work-related problems,		

Annexure 2: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Kassi / Spade	Nos	1
2	Khurpi	Nos	5
3	Weeder	Nos	2
4	Side shear	Nos	2
5	Gardner Rake	Nos	2
6	Watering Can	Nos	2
7	Hand hose	Nos	1
8	Plant Pruner	Nos	1
9	Wheel Barrow	Nos	1
10	Hand Sprayer	Nos	2
11	Budding & Grafting Set	Set	1
12	Earthen Pots	Nos	5
13	Hedge Cutter	Nos	2
14	Seed Packets- Any crops	Nos	4
15	Gunny bags	Nos	5
16	Tags-labels	Nos	5
17	Moss-grass	Kg/Nos	1

Master Gardener

18	Shed net	Nos	1
19	face Masks	Nos	30
20	Gum/ Safety boots	Pair	4
21	Secateur	Nos	2
22	Hand Gloves	Nos	30
23	Plastic Pots	Nos	5

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Markers

Annexure 3: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile *(if available)*
1	KVK Nadia	Sanjay Kumar Ray	Sr. Scientist & Head	NDRI, ERS, Kalyani, 741235	8729999748	kvkaddlnadia@gmail.com	
2	KVK Delhi	Dr. Rakesh Kumar	Sr. Scientist & Head	KVK South Delhi	9313047633	kvkujwa@yahoo.com	
3	GPS Institute of Agriculture Management	Sandra Mariam Binu	College Lecturer	Bangalore	7619160679	sandrachackalayilar@gmail.com	
4	EXTENSION EDUCATION INSTITUTE	Dr. S. Chandrasekar	Professor	Rajendra Nagar, Hyderabad	6301117139/7893332039	Saka6186@gmail.com	
5	RAJINDER AGRI CLINIC	Dr. Rajinder Singh	Managing Director	67 ROAD MANAWALA, OPP SBI, AMRITSAR, PUNJAB	9815008544	director@rejinderagriclinic.com	
6	Khan Mushroom Farm & Training Centre	Yousuf Khan	Proprietor	VPO Nangal Salangri Distt. Una (HP)	9418178839	khanmushroom@hotmail.com	

7	Indian Institute of Plantation Management	Dr. K.C. Prakash	Assistant Professor	Jnana Bharathi Campus, P.O. Malathalli, Bengaluru	7619367720	kep.iipmb@gmail.com
8	KVK Barpeta	Dr. Pinkudhar	Subject Matter Specialist (Agronomy)	Barpeta, Assam Agricultural University, Howly	8011605292	pinkukvk12@rediffmail.com

Annexure 4: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2022-23	100	50	30	10		
2023-24	100	50	30	10		
2024-25	100	50	30	10		

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
3.0	2022-23	612	366	355									
3.0													

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented: `

1.　PMKVY

Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☐ Digital Content ☐ Qualification Handbook ☐ Any Other:

Languages in which Content is available: Hindi and English

Annexure 5: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
AGR/N0801: Raise saplings in the nursery for transplanting in the garden	*Prepare for lab experiments*	6	8		8
	PC1. select the relevant varieties of plants to grow in the garden as per the season and client preferences				
	PC2. arrange the plant seeds, fertilizer, insecticides/ pesticides and poly bags/ containers to raise saplings				
	PC3. ensure the availability of water and electricity for nursery operations				
	PC4. organise the necessary tools, implements and Personal Protective Equipment (PPE) for nursery operations				
	PC5. construct the shade net house, store-room, compost area, etc.				
	PC6. erect framed structures such as poly- tunnels, hardening chamber, mist chamber for plant propagation				
	PC7. prepare farmyard manure or compost as per the Standard Operating Procedure (SOP)				
	PC8. conduct a soil test to identify the soil treatment requirements				
	PC9. apply the necessary treatment on the soil as per the requirement				
	Prepare the nursery bed	8	12		8
	PC10. dry plough the nursery field as required				
	PC11. apply fertilizers, farmyard manure or compost uniformly on the field in the recommended quantity				
	PC12. water the field with the recommended quantity of water				
	PC13. puddle the field for the recommended duration of time				
	PC14. level the field using an appropriate implement				
	Propagate saplings through seeds	8	10		8
	PC15. sort out the poor-quality/ damaged seeds				
	PC16. fill in the poly bags and containers with the recommended quantity of treated soil				
	PC17. carry out pre-sowing treatment of the seeds				
	PC18. create raised, level or sunken seedbed according to the local conditions				

	PC19. sow seeds in the seedbed, poly bags and containers at the recommended depth				
	PC20. apply the recommended quantity of water and manure/ fertilizer on the sown seeds as per the SOP				
	PC21. maintain saplings in the seedbed/ poly bags/ containers for the recommended period				
	PC22. acclimatise the saplings before transplanting				
	Propagate plants through cutting, root division, layering and budding	*8*	*10*		*6*
	PC23. select a healthy plant to take cutting from				
	PC24. extract stems of the recommended specifications from the plant				
	PC25. use the stems to propagate plants maintaining the required level of moisture and sunlight exposure				
	PC26. select a healthy and grown plant for root division				
	PC27. create root divisions from the plant's root				
	PC28. use the root divisions to propagate plants maintaining the recommended environment				
	PC29. select an appropriate method of layering according to the type of plant				
	PC30. cover the stem / tip / trunk of the plant with soil according to the selected method				
	PC31. apply the recommended quantity of water and fertilizer to support the growth of roots				
	PC32. prepare a rootstock for budding				
	PC33. cut a bud-stick from a healthy and disease- free plant with the required characteristics				
	PC34. prepare and use bud-scion to propagate plants				
	PC35. apply the approved pesticides/ insecticides to protect the plants from pests and diseases				
	PC36. maintain the record of nursery operations				
	Total Marks	**30**	**40**	**-**	**30**
AGR/N0802: Prepare to set up the garden	*Plan to set up the garden*	*10*	*12*		*8*
	PC1. conduct a survey of the site proposed for setting up the garden				
	PC2. assess the soil and climate characteristics at the site to establish suitability for planting a garden				
	PC3. co-ordinate with an authorised lab to identify the soil's micro and macro-nutrient requirements				

	PC4. select the relevant soil treatment method to improve the quality of soil				
	PC5. check if the site has adequate exposure to sunlight				
	PC6. identify the varieties of plants, trees, grass, shrubs, hedges and edges suitable for growing in the climate				
	PC7. measure the land area for preparing the layout of the garden				
	PC8. calculate the spacing between plants/ trees/ shrubs and rows as per their variety and available land area				
	PC9. select a pattern for planting the plants, trees, grass, shrubs, hedges and edges for aesthetics				
	PC10. check the availability of water, electricity and other inputs at the site				
	PC11. select the type of garden to be established as per the client's requirements				
	PC12. plan relevant garden features as per the client requirements such as walkways, steps, statues, fountain, pond, etc.				
	PC13. estimate the requirement of various material for establishing the garden				
	PC14. prepare the layout of the garden based on the assessment of client requirements				
	Arrange the necessary resources Medium	*20*	*28*		*22*
	PC15. estimate the cost of purchasing the required material				
	PC16. arrange the funds required for purchasing the material				
	PC17. identify multiple vendors of the material required for establishing the garden				
	PC18. select a vendor based on the quality and price of the material available with them				
	PC19. purchase the material as per the requirement				
	PC20. store the material appropriately as per its storage requirements				
	PC21. maintain the record of purchase				
	Total Marks	**30**	**40**		**30**
AGR/N0803: Set up the garden as per the plan	*Prepare the field for planting*	*6*	*8*		*6*
	PC1. remove all roots, debris and waste material from the land				
	PC2. examine the soil for an appropriate level of moisture for tilling				
	PC3. till the land to the required depth				
	PC4. apply the necessary treatment on the soil such as relevant chemicals, peat, lime, manure, compost, etc.				

Master Gardener

	PC5. identify and remove weeds from the land				
	PC6. ensure the soil is well-drained and there is no accumulation of water in the land				
	PC7. prepare rows and holes for planting seeds/plants as per the planned layout				
	PC8. ensure the holes are deep and wide enough to support healthy plant growth				
	PC9. arrange for drainage of water from the garden				
	Plant the garden	*10*	*14*		*10*
	PC10. plant trees/ plants/ shrubs/ grass/ hedges and edges in the selected pattern maintaining the required spacing				
	PC11. apply soil cover on the planted roots of the trees/ plants/ shrubs/ grass/ hedges and edges				
	PC12. water the trees/ plants/ shrubs/ grass/ hedges and edges with the recommended quantity of water				
	PC13. apply an appropriate type of fertilizer/ manure/ mulch on the roots of the hedges and edges				
	PC14. install supports for the relevant types of plants to help them grow as intended				
	PC15. erect fences around the garden to protect it from animals				
	PC16. identify the types of annual plants to grow				
	PC17. obtain the seeds of the selected plants				
	PC18. sort out damaged and unhealthy seeds				
	PC19. plant the seeds as per the SOP				
	PC20. water the planted seeds with the recommended quantity				
	PC21. install support to allow tender plants to grow straight				
	PC22. identify the appropriate vegetable, fruits and indoor plants to grow				
	PC23. prepare potting mixture using the recommended ingredients				
	PC24. plant the vegetables and fruit plants				
	PC25. plant bonsai trees in pots of the appropriate size				
	PC26. carry out potting and repotting for the optimum growth of potted plants				
	Set up garden features and irrigation or fertigation system	*5*	*7*		*5*
	PC27. set up an appropriate irrigation system such as drip irrigation, sprinkler irrigation, subsurface irrigation				

Master Gardener

	PC28. install a fertigation system as per the requirement				
	PC29. install various garden features such as walkways, statues, fountain as per the layout				
	Prepare the flower bed	5	8		5
	PC30. identify a spot with sufficient exposure to sunlight				
	PC31. remove any existing grass/ plants/ debris from the spot				
	PC32. drain out any water accumulated in the spot				
	PC33. ensure the soil has the correct level of moisture				
	PC34. till the soil to the recommended depth				
	PC35. prepare the flower bed as per the Standard Operating Procedure (SOP)				
	PC36. plant flowering plants such as bulbs, orchids, succulents, cacti in combination with bedding plants				
	PC37. maintain the recommended spacing between plants				
	Optimise resource utilisation	4	3		4
	PC38. optimise the usage of various material in different tasks / processes				
	PC39. optimise the usage of water/ electricity/ relevant materials in various tasks / processes				
	PC40. connect electrical tools and equipment safely and turn off when not in use				
	Total Marks	**30**	**40**	**-**	**30**
AGR/N0842: Carry out maintenance of the garden	*Perform plant nutrition management*	4	6		10
	PC1. water garden plants/ trees/ shrubs/ grass/ hedges and edges with the recommended quantity of water				
	PC2. apply the recommended quantity of fertilizers/ manure at appropriate intervals				
	PC3. maintain the appropriate moisture and sunlight exposure for different varieties of plants/ trees/ shrubs/ grass/ hedges and edges				
	Perform pest and disease management	4	2		4
	PC4. examine the garden plants/ trees/ shrubs/ grass/ hedges and edges for signs of pests and diseases				
	PC5. apply the approved insecticides/ pesticides as per the manufacturer's instructions				
	PC6. maintain the record of insecticides/ pesticides used in the garden				
	Carry out training, pruning and mowing	4	6		4

Master Gardener

	PC7. check the garden plants/ trees/ shrubs/ grass/ hedges and edges to identify their training and pruning needs				
	PC8. carry out pruning using the appropriate tools such as shears, pruners, or chain saw etc.				
	PC9. train the relevant plants, trees/ shrubs/ hedges and edges using the recommended training methods				
	PC10. dehead the dead flowers from the flower bed				
	PC11. mow the lawn as per the maintenance schedule				
	Control weeds in the garden	*4*	*6*		*4*
	PC12. apply mulch in the garden to prevent weed growth				
	PC13. identify different types of weed growth in the garden				
	PC14. remove weeds using the recommended methods and tools				
	Maintain the irrigation/ fertigation system	*6*	*8*		*4*
	PC15. check the irrigation/ fertigation system installed in the garden for any repair and maintenance needs				
	PC16. carry out regular repair and maintenance of the irrigation/ fertigation system				
	PC17. co-ordinate with an expert for complex repair and maintenance needs				
	Carry out general maintenance	*4*	*6*		*2*
	PC18. maintain cleanliness of the garden and its features				
	PC19. rake the dead leaves and debris from the lawn				
	PC20. drain out the accumulated water from the garden				
	PC21. carry out minor repair and maintenance of the gardening tools and equipment				
	Perform waste management	*4*	*6*		*2*
	PC22. segregate waste into different categories				
	PC23. dispose the non-recyclable waste appropriately				
	PC24. deposit the recyclable and reusable material at the identified location				
	Total Marks	30	40	-	30
AGR/N9903: Maintain health and safety at the workplace	*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				
	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. report 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				

Master Gardener

	PC20. report details of first aid administered in accordance with workplace procedures				
	Total Marks	40	25	-	35
AGR/N0843: Design, set up and maintain a rooftop	*Plan the rooftop garden*	*10*	*12*		*8*
	PC1. check if a rooftop garden is permitted as per the local legislation in the proposed area				
	PC2. assess the roof's loading capacity with the help of a structural engineer/ architect				
	PC3. ensure that there are no major installations or structures on the roof that may cause obstruction				
	PC4. assess the climatic conditions at the site to establish suitability for planting a rooftop garden				
	PC5. obtain the necessary approvals for the rooftop garden design				
	PC6. check that the building has an effective drainage system				
	PC7. assess the sunlight and wind exposure at the roof				
	PC8. check for adequate availability of water at the roof				
	PC9. measure the available space for the purpose of designing the rooftop garden				
	PC10. plan the placement of plants, furniture and garden features				
	PC11. select heat and drought tolerant plants, trees and shrubs of appropriate weight and size for the rooftop garden				
	PC12. select the appropriate material such as plastic, fiberglass or foam planting containers according to the roof's loading capacity				
	PC13. prepare a detailed plan through discussion with the client				
	PC14. estimate the cost of setting up the rooftop garden				
	Set up the rooftop garden	*12*	*12*		*12*
	PC15. arrange the necessary plants/ shrubs, material, tools and equipment for setting up the rooftop garden				
	PC16. prepare lightweight potting soil for planting plants, trees and shrubs				
	PC17. plant the trees, plants and shrubs as per the SOP				
	PC18. water the plants and shrubs with the recommended quantity of water				
	PC19. install windbreaks, appropriate support and shading for the plants, trees and shrubs				
	PC20. apply fertilizers in the recommended quantity				
	PC21. install an irrigation system for watering the plants				

	PC22. carry out waterproofing of the roof garden -				
	PC23. arrange for safe drainage of water from the garden				
	PC24. install garden features and furniture of appropriate weight and size as per the garden plan				
	Maintain the rooftop garden	*8*	*16*		*10*
	PC25. apply mulch on the plants to stabilize evaporation and control weed				
	PC26. examine plants, trees and shrubs for healthy growth and pest and disease infestation				
	PC27. apply fertilizers, manure and pesticides/ insecticides in the recommended quantity at appropriate intervals				
	PC28. train plants and shrubs as per the requirement				
	PC29. prune plants, trees and shrubs to ensure their healthy growth and aesthetics				
	PC30. remove weeds as per the SOP				
	PC31. carry out repair and maintenance of the garden pots, features, irrigation and drainage system				
	PC32. maintain record of the maintenance activities				
	Total Marks	30	40	-	30
DGT/VSQ/N0102: Employability Skills (60 Hours)	*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*	*-*	*-*
	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				
	Entrepreneurship	*2*	*3*	*-*	*-*
	PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research				

Master Gardener

	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				
	Total Marks	20	30	-	
Grand Total		**210**	**225**		**185**

Annexure 6: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

1. **Assessment System Overview**

In Agriculture Sector it is of ultimate importance that individualss 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. Multiple Choice Questions : To assess basic knowledge (Objective/Subjective)
2. Viva : To assess awareness on processes (Oral and/or written questioning)

Master Gardener

3. Practical : 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 ground through qualified and ToA certified assessors.

While it is important that an individual has adequate knowledge and skills to perform a specific task, weight age for different aspects for 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 assessment; ASCI will certify the learners/candidates

2. Testing Environment

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

In remote locations/villages, assessments get delivered through tablets without the requirement of 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 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 training / within 7 days of completion of training.
- Assessment will be conducted at the training venue
- 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.

Master Gardener

- The theory, practical and viva assessments will be carried out on same day. In case of more number of candidates, 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 usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling job situation

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

3. 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, behavioral traits and domain knowledge.

Theoretical Knowledge - Item constructs and types are determined by 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 which 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 set of tasks in a demo/practical task

Master Gardener

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, do's and don'ts, subjective questions to check understanding of practical tasks.

Assessor has to go through orientation program organized by Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. Assessor shall be given a NOS and PC level overview of each QP as applicable. 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 which will maintain standardization of marking scheme.

4. **Type of Evidence and Evidence Gathering Protocol:**

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

- Geo Tagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidences (photos and videos) to the assessor one day prior to the assessment. List is mentioned below:
    - Signed Attendance sheet
    - Assessor feedback sheet
    - Candidate feedback sheet
    - Assessment checklist for assessor
    - Candidate Aadhar/ID card verification
    - Pictures of 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, 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 assessment, regular calls and video calls are done.
- On-boarding and training of assessor and proctor is done on timely basis to ensure that quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

5. *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 check on assessment quality and ensure assessment is carried out in 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 event is over by what time and the documentation is done in proper manner or not.

Master Gardener

- <u>TP Calling</u>: To keep check on malpractice activity, independent audit team calls to TP on recorded line to take confirmation if there was any malpractice activity observed in assessment on part of AA/SSC team. If calls are not connected, email is send to TP Spoc for taking their confirmation
- <u>Video and Picture Evidence</u>: Backend team collects video and pictures for assessment on real time basis and highlights any issue like, Students sitting idle/trainer allowed for helping out candidates during assessment.
- <u>Surprise Visit</u>: Time to time SSC/AA Audit team can visit the assessment location and do surprise audit for assessment process carried out by ground team.
- <u>Geo Tagging</u>: On day of assessment, each technical spoc is required to login in our internal app which is Geo tagged. Any deviation with centre address needs to be highlighted to assessment team on real-time basis.

Method for assessment documentation, archiving, and Access:
- ASCI has fully automated result generation process in association with multiple AAs
- Theory, Practical and Viva marks forms the basis of the results and encrypted files generated to avoid data manipulation. All responses captured and stored in System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.
- Maker Checker concept: 1 person prepares results and other audit result which is internally approved by AA at first and then gets vetted at the end of SSC
- All soft copy of documents is received from the on-ground tech team over mail. 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 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 conclusion of project or scheme)

Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Master Gardener

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf