



QUALIFICATION FILE

Carbon Farming Practitioner

☒ 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: 4.5

Submitted By:

Agriculture Skill Council of India

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

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Section 1: Basic Details

1.	Qualification Name	Carbon Farming Practitioner																
2.	Sector/s	Agriculture																
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved) NA	Qualification Name of existing/previous version: NA															
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA																
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-4.5-AG-02424-2024-V1-ASCI	6. NCrf/NSQF Level: 4.5															
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	The individual is responsible for adopting a whole farm approach to enhance the storage of carbon into soil/trees and or reduce CO2 and other greenhouse gas emissions using various land, water and crop management practices.																
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	<p>a. Entry Qualification & Relevant Experience:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>UG Certificate or equivalent OR Completed 1st year of 2 year diploma after 12th OR Completed 3 year diploma after 10th</td> <td>Agriculture/Horticulture/Forestry/Agriculture Engineering/Veterinary Sciences and Animal Husbandry/Dairy Technology</td> </tr> <tr> <td>2</td> <td>12th Grade Pass</td> <td>1.5-year experience in Agriculture and allied sectors</td> </tr> <tr> <td>3</td> <td>10th Grade pass</td> <td>4.5-years experience in Agriculture and allied sectors</td> </tr> <tr> <td>4</td> <td>Previous relevant Qualification of NSQF Level 4</td> <td>1.5-year experience in farming related activities</td> </tr> </tbody> </table> <p>b. Age: NA</p>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	UG Certificate or equivalent OR Completed 1 st year of 2 year diploma after 12 th OR Completed 3 year diploma after 10 th	Agriculture/Horticulture/Forestry/Agriculture Engineering/Veterinary Sciences and Animal Husbandry/Dairy Technology	2	12 th Grade Pass	1.5-year experience in Agriculture and allied sectors	3	10 th Grade pass	4.5-years experience in Agriculture and allied sectors	4	Previous relevant Qualification of NSQF Level 4	1.5-year experience in farming related activities
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																
1	UG Certificate or equivalent OR Completed 1 st year of 2 year diploma after 12 th OR Completed 3 year diploma after 10 th	Agriculture/Horticulture/Forestry/Agriculture Engineering/Veterinary Sciences and Animal Husbandry/Dairy Technology																
2	12 th Grade Pass	1.5-year experience in Agriculture and allied sectors																
3	10 th Grade pass	4.5-years experience in Agriculture and allied sectors																
4	Previous relevant Qualification of NSQF Level 4	1.5-year experience in farming related activities																

10.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	16	11. Common Cost Norm Category (I/II/III) <i>(wherever applicable): II</i>																					
12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	NA																						
13.	Training Duration by Modes of Training Delivery <i>(Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</i>	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>OJT Recommended (Hours)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td>230</td><td>160</td><td>90</td><td></td><td>480</td></tr> <tr> <td>Online</td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	230	160	90		480	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	230	160	90		480																			
Online																								
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/6111 (Field Crop and Vegetable Grower)																						
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Carbon Farming Practitioner (L4.5), Farm Supervisor (L5)																						
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	NA																						
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:																						
18.	Is the Job Role Amenable to Persons with Disability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: LV, SHI																						
19.	How Participation of Women will be Encouraged	Endeavour to include women in batches																						
20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Covered in DGT/VSQ/N0103)																						
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																						
22.	Name and Contact Details of Submitting / Awarding Body SPOC <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	Name: Mr Srikanth Pampana Email: standards@asci-india.com Website: www.asci-india.com Contact No.: 0124-4670029																						

23.	Final Approval Date by NSQC: 30/04/2024	24. Validity Duration: 3 years post NSQC Approval	25. Next Review Date: 30/04/2027
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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.	Ascertain the effects of climate change as a factor in farm/land management	AGR/N6146 (v1.0)	Core	4.5	1	20	10			30	20	15		15	50	10
2.	Analyse opportunities and risks in undertaking carbon farming	AGR/N6147 (v1.0)	Core	4.5	2	30	30			60	20	15		15	50	10
3.	Increase Carbon sequestration using vegetation and/or agricultural methods	AGR/N6148 (v1.0)	Core	4.5	3	30	60			90	15	20		15	50	30
4.	Enhance soil organic carbon using land management and crop residue management practices	AGR/N6149 (v1.0)	Core	4.5	2	30	30			60	15	20		15	50	25
5.	Comply with measuring and regulatory/audit requirements of carbon farming methods	AGR/N6150 (v1.0)	Core	4.5	2	30	30			60	20	15		15	50	20
6.	Employability Skills (90 Hours)	DGT/VSQ/N 0103 (v1.0)	Non-Core	5	3	90				90	20	30			50	5
7	OJT (Mand.)				3			90		90						

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)
Duration (in Hours) / Total Marks					16	230	160	90		480	110	115		75	300	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.)

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)	Diploma in agriculture with 3 years of relevant experience in Agri Crop Production & Carbon Farming Practices OR Any Graduate with 2 years of relevant experience in Agri Crop Production & Carbon Farming Practices OR Graduate (Agriculture/ Horticulture/ Forestry) with 1 year of relevant experience in Agri Crop Production & Carbon Farming Practices OR Post-Graduate (Agriculture/ Horticulture/ Forestry) with 0.5 year of relevant experience in Agri Crop Production & Carbon Farming Practices
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	5 years of training experience in Agri Crop Production & Carbon Farming Practices after Graduation in Agriculture / Horticulture/ Forestry with 1 year of relevant industry experience OR 5 years of training experience in Agri Crop Production & Carbon Farming Practices after Post-Graduation in Agriculture / Horticulture/ Forestry with 0.5 year of relevant industry experience
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)

4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA
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Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Graduate (Agriculture/ Botany/ Horticulture/Forestry and related streams) with 5 years of relevant experience in Agri Crop Production & Carbon Farming Practices and related fields OR Post-Graduate (Agriculture/ Botany/ Horticulture/Forestry and related streams) with 2 years of relevant experience in Agri Crop Production & Carbon Farming Practices and related fields OR PhD (Agronomy/Environmental Science/Forestry/Climate change & sustainability/ Ecology and related streams) with 1 year of relevant experience in Agri Crop Production & Carbon Farming Practices and related 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)	Post-Graduate (Agriculture/ Botany/ Horticulture/Forestry and related streams) with 10 years of relevant experience in Agri Crop Production & Carbon Farming Practices
4.	Assessment Mode (Specify the assessment mode)	Offline
5.	Tools and Equipment Required for Assessment	<input type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment)

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): Scoping Study done with the support of Department of Education, Australian Government and ASCI in collaboration with Adelaide University as principal partner and a few other Australian and Indian partners
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): No
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 21
5.	Estimated nos. of persons to be trained and employed: 50/year

6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: <i>Awaited</i>
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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)	<i>Included as Annexure 1</i>
2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	<i>Included as Annexure 2</i>
3.	Annexure: Detailed Assessment Criteria (Mandatory)	<i>Included as Annexure 5</i>
4.	Annexure: Assessment Strategy (Mandatory)	<i>Included as Annexure 6</i>
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)	<i>Included as Annexure 8</i>
9.	Supporting Document: Career Progression (Mandatory - Public view)	<i>Included as Annexure 9</i>
10.	Supporting Document: Occupational Map (Mandatory)	<i>Included as Annexure 10</i>
11.	Supporting Document: Assessment SOP (Mandatory)	<i>Included as Annexure 11</i>
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
Professional Theoretical Knowledge/Process	The individual has knowledge of adverse effects of climate change on the biotic systems and common land and agricultural management practices that reduce greenhouse gas emissions.	Possesses broad and deep knowledge and skills to solve problems in specialized fields.	4.5

Professional and Technical Skills/ Expertise/ Professional Knowledge	<p>The individual is able to</p> <ul style="list-style-type: none"> Identify the effects of climate change as a factor in farm/land management Identify opportunities and risks in undertaking carbon farming Increase Carbon sequestration using vegetation and/or agricultural methods Increase soil organic carbon using land management and crop residue management practices Comply with measuring and regulatory/audit requirements of carbon farming methods 	Range of skills along with specialized domain skills	4.5
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	The individual is able to plan for undertaking carbon farming, calculate cost-benefit analysis for the same, and meet compliance obligations of carbon farming method.	May have entrepreneurial mindset, self-management	4.5
Broad Learning Outcomes/Core Skill	The individual is able to assess technological systems required to practice/monitor carbon farming and collect, collate and record relevant data.	Possess technical expertise, adept at solving complex problems and improving output.	4.5
Responsibility	The individual is able to monitor and maintain carbon storage or reduced emissions through changing conditions and document through direct and indirect monitoring systems.	Responsible for achieving tangible outcomes, managing change, building teams, and mentoring the workforce.	4.5

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	Soil Sampling Kit	Nos	3
2	Soil Health Cards	Nos	5
3	Compost Production unit	Nos	1
4	Jeevamrut Production	Nos	1
5	Beejamrut Production	Nos	1
6	Integrated Pest Management tools	Nos	5

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. White board
2. Marker
3. Overhead projector
4. Laptop
5. Internet access

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	AKRSP	Mr Naveen Patidar	CEO	Ashram Road, Ahmedabad		naveen.patidar@akdn.org	
2	KVK, Amravati	Dr K P Singh	Sr Scientist and Head	Durgapur, Amravati	9637717818	pckvkda2015@gmail.com	
3	IBRAD (Indian Institute of Bio Social Research and Development),	Professor S.B. Roy	Chairman	Prafulla Kanan, Kestopur, Kolkata 700101	9830037376	sbroy111@gmail.com	
4	Patanjali Organic Research Institute Pvt Ltd	Mr Pawan Kumar	Chief General Manager	Haridwar, Uttarakhand	9412075011	chiragpawan@yahoo.com	
5	Rajinder Agri Clinic	Mr Rajinder Singh	Managing Director	Amritsar, Punjab	9815008544	director@rajinderagriclinic.com	
6	SUVIDHA	Mr Prakash Singh	AGM, Project head	Haldwani, UK	7906699701	prakash@suvidha-india.org	

7	Agrinext Consultancy	Ms. Madhuri Dixit Ghugari	Founder & Director	Pune	7440403736	madhuri@agrinextconsultancy.com	
8	Indian Institute of Plantation Management	Dr. K.C. Prakash	Assistant Professor	Bangalore	7619367720	kcp.iipmb@gmail.com	
9	Gramshree Agri Services Pvt Ltd	Ms Aastha Singh	Founder & CEO	Patna, Bihar	9608600960	gramshreeagri@gmail.com	
10	Indian Cardamom Research Institute, Spices Board	Dr. John Jo Varghese	Head, ICRI, RRS, Gangtok Sikkim	Gangtok, Sikkim	9495490555	johnjovarghese@nic.in	
11	Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa, Samastipur, Bihar	Dr. Mohit Sharma	Asst. Scientist & Dy. Registrar	School of Agri-Business & Rural Management (SAB&RM), RPCAU, Pusa, Samastipur, Bihar, 848125	9549034035	mohit.sharma@rpcau.ac.in	
12	KVK_Nanded	Dr Madhuri Revanwar	Sr Scientist and Head	Nanded	9049388323	ssm.kvklearning@gmail.com	
13	KVK_Mahabubnagar	Dr. Khogare Dadasaheb Trimbak.	Sr Scientist and Head	Mahabubnagar, Telangana	9370006598	kvk_mahaboobnagar@yahoo.co.in	
14	Assam Agriculture University	Dr. Sundar Barman	Associate Professor	Jorhat	9864253089	sundar.barman@aau.ac.in	
15	KVK Barpeta	Dr Pibnkudhar Barman	Subject Matter Specialist	Howly	8011605292	pinkukvk12@rediffmail.com	
16	KVK Golaghat	Dr Bhabesh Chandra Deka	Sr Scientist and Head	Golaghat	9435340387	kvk_golaghat@aau.ac.in	
17	ICAR NRRI	Dr Kanchan Saikia	Principal Scientist & Incharge Head	Gerua, Hajo	7662887386	kanchansaikia@yahoo.com	

18	KVK_Rewa	Dr A K Pandey	Sr Scientist and Head	Rewa	9977879360	kvk_rewa@rediffmail.com	
19	KVK_Ariyalur	Dr.G.Alagukannan	Sr Scientist and Head	Ariyalur	9629246586	kvk.ariyalur@icar.gov.in	
20	CSSSPG College	Dr Surjeet Kumar	Director	Meerut	9412519340	surjeetarun@gmail.com	
21	KVK Alwar	Dr Sushil Kumar Sharma	Principal Scientist and Head	Bansur, Rajasthan	7976966603	kvkbansur@gmail.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
2024	50	30	20	10		
2025	50	30	20	10		
2026	50	30	20	10		

Data to be provided year-wise for next 3 years

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

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
		NA											

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. NA
- 2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

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	Theor y Marks	Practica l Marks	Projec t Marks	Viva Mark s
1. AGR/N6146: Ascertain the effects of climate change as a factor in farm/land	<i>Identify the climate system and climate change as they relate to farm management</i>	5	2		5
	PC1. Identify the components of the climate system				
	PC2. Identify the role of the main greenhouse gases in the climate change				
	PC3. Identify and describe the natural factors/processes that contribute to climate change				
	PC4. Identify and describe human induced factors/processes that lead to climate change				
	PC5. Identify the potential impacts of climate change on local natural and agricultural environments				
	<i>Identify the roles of vegetation, crops, animals, soil, water, and their management practices in greenhouse gas production</i>	8	5		5
	PC6. comprehend the role of land, water, vegetation, crops, and animal management in greenhouse gas emission reduction				
	PC7. Identify the forms of carbon in the carbon cycle, how they inter-change and where they are stored				
	PC8. Identify carbon cycle processes in relation to own work area				
	PC9. Research the role of vegetation, soil carbon and farming practices in the mitigation of carbon dioxide levels in the atmosphere				
	<i>Identify and contribute to Farm/land management practices that reduce greenhouse gas emissions</i>	7	8		5
	PC10. Identify Farm/land management practices to reduce methane emissions				
	PC11. Identify Farm/land management practices to reduce nitrous oxide emissions				
	PC12. Identify Farm/land management practices to reduce carbon dioxide emissions				
Total Marks		20	15	0	15

2. AGR/N6147: Analyse opportunities and risks in undertaking carbon farming projects	<i>Comprehend the concept of Carbon Trading</i>	4			4
	PC1. Discuss the Paris Agreement				
	PC2. Discuss India's Nationally Determined Contribution (NDC) commitment to the United Nations Framework Convention on Climate Change (UNFCCC)				
	PC3. Describe the concept of carbon credit- Verified Emission Reductions (VER) and Certified Emission Reduction (CER)				
	PC4. Explain carbon trading				
	PC5. Describe Carbon Farming				
	<i>Identify carbon farming opportunities</i>	5	4		5
	PC6. Investigate markets / Project Developers that offer carbon credits for carbon farming projects				
	PC7. Investigate the approved technologies and applicable regions				
	PC8. Consider the suitability of land type, land use, local climate and resource availability and investment				
	PC9. Register with the concerned Project Developer/administrative agency				
	<i>Consider feasibility of undertaking carbon farming</i>	6	6		4
	PC10. identify the processes to measure and document the existing carbon as baseline for change				
	PC11. Roughly estimate anticipated carbon abatement through informal methods for measuring carbon				
	PC12. Consider technological systems required to monitor carbon farming and collect, collate and record relevant data				
	PC13. Identify the management and technical skills required to undertake carbon farming				
	PC14. Assess the requirement to contract suitably qualified or experienced personnel				

	PC15. Consider services that may be offered by carbon project developers, agents, aggregators and advisors				
	PC16. Identify and understand the strategy to measure or audit carbon and record results				
	<i>Analyse overall benefits and risks associated with carbon farming</i>	5	5		2
	PC17. Analyse direct benefits and ancillary benefits of undertaking carbon farming for community, farmers or project partners at ground level				
	PC18. Analyse risks associated with the implementation of carbon farming				
	PC19. Estimate total costs of project				
	PC20. Carry out cost-benefit analysis of undertaking carbon farming				
	Total Marks	20	15	0	15
3. AGR/N6148: Increase carbon sequestration using vegetation and/or agricultural methods	<i>Identify benefits of increasing carbon sequestration and reducing Green House Gases from the atmosphere</i>	4	2		2
	PC1. Analyse the benefits of increasing atmospheric carbon sequestration and reducing Green House Gas emissions				
	PC2. Identify land management practices to increase carbon sequestration or reduce greenhouse emissions using vegetation (This also includes wasteland development, Natural Farming, Agri-horticulture, horti-pastoral, farm forestry, plantations, and regeneration of native forests along with other)				

PC3. Identify Farm Management practices that support aerial carbon sequestration				
PC4. Consider the associated social, cultural, environmental, biotic and economic benefits associated with each practice				
<i>Plan for undertaking carbon farming</i>	6	10		8
PC5. Identify project developers operating in the area and the certified Carbon offsetting strategies				
PC6. Identify the applicability of selected site/s for undertaking certified carbon farming strategy				
PC8. Identify the opportunities/risks associated with undertaking the selected certified carbon farming strategy				
PC9. Understand strategy to measure or audit carbon and record results				
PC10. Identify the technological and auditing services offered by the project developer				
PC11. Identify equipment, resources and capacities required				
PC12. Carry out cost-benefit analysis of undertaking carbon farming				
PC13. analyse the technical and financial feasibility of undertaking carbon farming				
PC14. Register with the certified project developer/administrator				

	PC15. comply with any legal or administrative permissions needed from the local Government to work with the communities				
	<i>Undertake and monitor carbon farming</i>	5	8		5
	PC16. Measure and document the existing carbon as baseline for change assessment				
	PC17. Implement carbon farming in line with selected method				
	PC18. Monitor regularly to maintain carbon storage or reduced emissions through changing conditions and document				
	Total Marks	15	20	0	15
4. AGR/N6149: Enhance soil organic carbon using land management and crop residue management practices	<i>Identify benefits of increasing soil organic carbon</i>	4	2		2
	PC1. Identify the role, and forms, of carbon in soil				
	PC2. Identify carbon as a major component of soil organic matter				
	PC3. Analyse the benefits of increasing organic carbon in soil				
	<i>Identify and analyse practices for increasing the soil organic carbon</i>	5	2		5
	PC4. Identify and analyse soil carbon enhancing processes involving land preparation and conservation agriculture practices				
	PC5. Identify and analyse soil carbon enhancing processes involving vegetation and photosynthesis				

PC6. Determine and analyse soil moisture and water management practices that sequester carbon into soil				
PC7. Determine and analyse input management practices that improve soil organic carbon				
PC8. Identify other interactions of ecosystem processes in increasing soil organic carbon				
<i>Implement the practices to increase soil organic carbon</i>	2	10		6
PC9. Identify and select a certified strategy or method to increase soil organic carbon in confirmation with a certified project developer.				
PC10. Identify and understand strategy to measure soil organic matter, and record results				
PC11. Measure and record soil carbon as baseline for the change assessment				
PC12. Implement practices in line with selected method and document				
PC13. Monitor and maintain soil to preserve soil health through changing management conditions				
<i>Identify and practice appropriate Crop Residue management practice to reduce emissions</i>	4	6		2
PC14. identify various crop residue management options that improve soil carbon				

	PC15. Implement appropriate crop residue and biomass management practices to capture and store carbon				
	PC16. Operate land-forming and crop residue management machinery and equipment				
	Total Marks	15	20	0	15
5. AGR/N6150: Comply with measuring and regulatory/audit requirements of carbon farming methods	<i>Determine compliance obligations of carbon farming method</i>	4	2		2
	PC1. Access compliance requirements of the selected carbon farming method				
	PC2. Interpret requirements of method and prepare to meet requirements				
	<i>Establish project area</i>	4	5		3
	PC3. Determine requirement for collection and reporting of geographic information, specific to method and guidelines				
	PC4. Use geospatial data to define project area				
	PC5. Define activity areas including exclusions areas, as required by the method				
	<i>Collect and record data</i>	6	4		4
	PC6. Identify data collection procedure associated with method				
	PC7. Collect data according to project methodology				
	PC8. record data as specified by method or technical guidance documentation				

	PC9. analyse data for an insight on carbon abatement or storage for reporting period				
	<i>Comply with audit requirements</i>	6	4		6
	PC10. Ensure records are secure and backed-up				
	PC11. Ascertain audit requirements of method				
	PC12. Choose an auditor approved by carbon market regulator				
	PC13. Participate in audit process in line with auditor's directions				
	PC14. Submit report to the carbon market regulator				
	PC15. Follow regulator procedures to receive carbon credits				
	Total Marks	20	15	0	15
6. DGT/VSQ/N0103: Employability Skills (90 Hours)	<i>Introduction to Employability Skills</i>	1	1		
	PC1. understand the significance of employability skills in meeting the current job market requirement and future of work				
	PC2. identify and explore learning and employability relevant portals				
	PC3. research about the different industries, job market trends, latest skills required and the available opportunities				
	<i>Constitutional values – Citizenship</i>	1	1		

	PC4. 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.			
	PC5. follow environmentally sustainable practices	-	-	
	<i>Becoming a Professional in the 21st Century</i>	1	3	
	PC6. recognize the significance of 21st Century Skills for employment			
	PC7. 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			
	PC8. adopt a continuous learning mindset for personal and professional development			
	<i>Basic English Skills</i>	3	4	
	PC9. use basic English for everyday conversation in different contexts, in person and over the telephone			
	PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English			
	PC11. write short messages, notes, letters, e-mails etc. in English			
	<i>Career Development & Goal Setting</i>	1	2	

PC12. identify career goals based on the skills, interests, knowledge, and personal attributes				
PC13. prepare a career development plan with short- and long-term goals				
<i>Communication Skills</i>	2	2		
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings				
PC15. use active listening techniques for effective communication				
PC16. communicate in writing using appropriate style and format based on formal or informal requirements				
PC17. work collaboratively with others in a team				
<i>Diversity & Inclusion</i>	1	1		
PC18. communicate and behave appropriately with all genders and PwD				
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act				
<i>Financial and Legal Literacy</i>	2	3		
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.				
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook				

	PC22. identify common components of salary and compute income, expenses, taxes, investments etc				
	PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation				
	<i>Essential Digital Skills</i>	3	5		
	PC24. operate digital devices and use their features and applications securely and safely				
	PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.				
	PC26. display responsible online behaviour while using various social media platforms				
	PC27. create a personal email account, send and process received messages as per requirement				
	PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications				
	PC29. utilize virtual collaboration tools to work effectively				
	<i>Entrepreneurship</i>	2	3		
	PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research				

PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion				
PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity				
<i>Customer Service</i>	1	2		
PC33. identify different types of customers and ways to communicate with them				
PC34. identify and respond to customer requests and needs in a professional manner				
PC35. use appropriate tools to collect customer feedback				
PC36. follow appropriate hygiene and grooming standards				
<i>Getting ready for apprenticeship & Jobs</i>	2	3		
PC37. create a professional Curriculum vitae (Résumé)				
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively				
PC39. apply to identified job openings using offline/ /online methods as per requirement				
PC40. answer questions politely, with clarity and confidence, during recruitment and selection				

	PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements				
	TOTAL MARKS	20	30		
	GRAND TOTAL	110	115	0	75

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 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. Multiple Choice Questions : To assess basic knowledge (Objective/Subjective)
2. Viva : To assess awareness on processes (Oral and/or written questioning)
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

0. 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.
- 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
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The question paper pre-loaded in the computer /Tablet and it will be in the language as requested by the training partner.

0. 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

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.

0. 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

0. **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 check on assessment quality and ensure assessment is carried out in fair and transparent manner
- Aadhar verification of candidates
- Evening Check (Post Assessment): 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.
- TP Calling: 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
- Video and Picture Evidence: 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.
- Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and do surprise audit for assessment process carried out by ground team.
- Geo Tagging: 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 7: 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
VER	Verified Emission Reductions
CER	Certified Emission Reduction
ETS	Emissions Trading System
CDM	Clean Development Mechanism
AFOLU	Agriculture, Forestry and Other Land Uses

UNFCCC	United Nations Framework Convention on Climate Change
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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