



QUALIFICATION FILE

Aquarium Technician

☒ 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.....	3
Section 2: Module Summary.....	5
NOS/s of Qualifications.....	5
Mandatory NOS/s:.....	5
Assessment - Minimum Qualifying Percentage.....	5
Section 3: Training Related.....	6
Section 4: Assessment Related.....	7
Section 5: Evidence of the need for the Qualification.....	8
Section 6: Annexure & Supporting Documents Check List.....	8
Annexure 1: Evidence of Level.....	9
Annexure 2: Tools and Equipment (Lab Set-Up).....	13
Annexure 3: Industry Validations Summary.....	14
Annexure 4: Training & Employment Details.....	15
Annexure 5: Detailed Assessment Criteria.....	15
Annexure 6: Assessment Strategy.....	26
Annexure: Acronym and Glossary.....	30

Section 1: Basic Details

1.	Qualification Name	Aquarium Technician	
2.	Sector/s	Agriculture	
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing qualification: QG-04-AG-00273-2023-V1.1-ASCI	Qualification Name of existing/previous version: Aquarium Technician
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-03909-2025-V2-ASCI & version 2	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	An Aquarium Technician is responsible for providing service for maintenance of aquarium and accessories and fish keeping which is aesthetically pleasing and sound for the fish and customers	

9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: b. <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>12 or equivalent</td><td></td></tr> <tr> <td>2</td><td>10th Class Pass</td><td>3 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries</td></tr> <tr> <td>3</td><td>8th class pass</td><td>6 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries</td></tr> <tr> <td>4</td><td>Previous NSQF Level 3.5</td><td>1.5 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries</td></tr> <tr> <td>5</td><td>Previous NSQF Level 3.0</td><td>3 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries</td></tr> </tbody> </table> Age: NA						S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	12 or equivalent		2	10th Class Pass	3 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries	3	8 th class pass	6 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries	4	Previous NSQF Level 3.5	1.5 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries	5	Previous NSQF Level 3.0	3 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																							
1	12 or equivalent																								
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5	Previous NSQF Level 3.0	3 Years of relevant experience in Agriculture and allied sectors, preferably in fisheries																							
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): I																					
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 <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>180</td><td>120</td><td>90</td><td></td><td>390</td></tr> <tr> <td>Online</td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> (Refer Blended Learning Annexure for details)					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	180	120	90		390	Online						
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																				
Classroom (offline)	180	120	90		390																				
Online																									
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/6221																							
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Aquarium Technician (L4), Senior Aquarium Technician (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 <i>(Specify the NOS/Module which covers it)</i>	☒ Yes ☐ No DGT/VSQ/N0103 (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 <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	Name: Ms Purnambica Email: standards@asci-india.com Website: www.asci-india.com Contact No.: 0124-4670029	
23.	Final Approval Date by NSQC: 08-05-2025	24. Validity Duration: 3 years post NSQC Approval	25. Next Review Date: 08-05-2028

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/ NSQF 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	Set up and manage marine aquarium	AGR/N5115 (v3.0)	Core	4	3	40	50			90	30	40		30	100	40
2	Set up and manage freshwater aquarium (including planted aquarium and garden ponds)	AGR/N5116 (v3.0)	Core	4	3	35	55			90	30	40		30	100	40
3	Ensure safety, hygiene and sanitation practices in aqua scaping	AGR/N5117 (v3.0)	Core	4	1	15	15			30	30	40		30	100	10
4	Employability Skills (90 Hours)	DGT/VSQ/ N0103 (v1.0)	Non-Core	4	3	90				90	20	30			50	10
5	OJT			4	3			90		90						
Duration (in Hours) / Total Marks					13	180	120	90		390	110	150		90	350	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)	10th Class with 5 years of relevant industry in Ornamental Fishery Rearing and Aquarium management* * Aquarium Technician with 5 Years' experience of working with registered Corporates or Not for Profit Organizations after 10th Pass OR Diploma (Fisheries) with 4 years of relevant industry in Ornamental Fishery Rearing and Aquarium management** ** Regular Diploma more than 15 months in fisheries OR Graduate (Zoology) with 2 years of relevant industry in Ornamental Fishery Rearing and Aquarium management*** *** For school Program minimum qualification of Trainer should be Graduate (Fisheries Science /Industrial Fish & Fisheries/Zoology). Their Teaching experience will be considered industry experience OR Graduate (Agriculture) with 2 years of relevant industry in Ornamental Fishery Rearing and Aquarium management OR Graduate (Fisheries or related streams)
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	5 years of training experience in Ornamental Fishery Rearing and Aquarium management after Graduation (Zoology) with 2 years of relevant industry in Ornamental Fishery Rearing and Aquarium management OR 5 years of training experience in Ornamental Fishery Rearing and Aquarium management after Graduation (Agriculture) with 2 years of relevant industry in Ornamental Fishery Rearing and Aquarium management OR 5 years of training experience in Ornamental Fishery Rearing and Aquarium management after Graduation (Fisheries or related streams)
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	NA

	Upskilling Required for Trainer	
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Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	B.F.Sc with 4 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR B.Tech (Fisheries Engineering and related streams) with 4 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR B.Sc (Fisheries and related streams) with 5 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR M.Tech (Aquaculture Engineering/ Fisheries Engineering and related streams) with 2 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR M.F.Sc with 2 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR M.Sc (Fisheries and related streams) with 2 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR PhD (Fisheries Science and related streams) with 1 year of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams
2.	Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	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) <i>(as per NCVET guidelines)</i>	M.Tech (Aquaculture Engineering/ Fisheries Engineering and related streams) with 10 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams OR M.F.Sc with 10 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams

		OR M.Sc (Fisheries and related streams) with 10 years of relevant experience in Fisheries Science/ Zoology/ Aquaculture/ Applied aquaculture/ Marine Biology or related streams
4.	Assessment Mode (<i>Specify the assessment mode</i>)	Offline
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☒ Yes ☐ No (<i>details to be provided in Annexure-if it is different for Assessment</i>)

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): No
4.	Number of Industry validation provided: 8
5.	Estimated nos. of persons to be trained and employed: 2000
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes, from National Development Board Project

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 (<i>Mandatory</i>)	<i>Annexure-1</i>
2.	Annexure: List of tools and equipment relevant for qualification (<i>Mandatory, except in case of online course</i>)	<i>Annexure-2</i>
3.	Annexure: Detailed Assessment Criteria (<i>Mandatory</i>)	<i>Annexure-5</i>
4.	Annexure: Assessment Strategy (<i>Mandatory</i>)	<i>Annexure-6</i>
5.	Annexure: Blended Learning (<i>Mandatory, in case selected Mode of delivery is "Blended Learning"</i>)	NA
6.	Annexure: Multiple Entry-Exit Details (<i>Mandatory, in case qualification has multiple Entry-Exit</i>)	NA
7.	Annexure: Acronym and Glossary (<i>Optional</i>)	
8.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	<i>Annexure-7</i>

9.	Supporting Document: Career Progression (Mandatory - Public view)	Aquarium Technician (L4), Senior Aquarium Technician (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
Professional Theoretical Knowledge/Process	- Set up and manage marine aquarium - Set up and manage freshwater aquarium (including garden ponds) - Undertake basic entrepreneurial activities for small enterprise - Follow the relevant employability and entrepreneurial practices - Communicate effectively at the workplace - Ensure safety, hygiene and sanitation practices in aqua scaping	An Aquarium Technician is responsible for providing service for maintenance of aquarium and accessories and fish keeping which is aesthetically pleasing and sound for the fish and customers.	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	- Set up and maintain marine aquarium - Set up and maintain freshwater aquarium, planted aquarium and garden ponds - Ensure proper health management of fish in marine aquarium freshwater aquarium, planted tank and garden pond - Communicate effectively at the workplace - Follow the employability and entrepreneurial practices	The job holder is expected to have knowledge of -various resources required to set up a marine/ freshwater aquarium; the importance of sanitising the aquarium and the relevant components before assembling; the process of acclimatising the fish and reef before being placed in the aquarium; the recommended quantity of treated water to be maintained in an aquarium for varieties of aquarium fish; the recommended stocking density to be maintained for varieties of aquarium fish; the nutrition and feed requirements of different types of aquarium fish and the recommended feeding schedule; the importance of maintaining the recommended percentage and	4

		frequency of water exchange in the aquarium; the benefits and process of stocking organisms in the aquarium that consume ectoparasites and feed residues; the appropriate measures to prevent the growth of parasites and undesirable growth in the aquarium; the importance of using protein skimmers and filtration equipment to ensure the removal of waste matter and optimum water quality in the aquarium; various health and disease management practices.	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	• Optimize resource utilization • Practice inclusion at work • Maintain personal health and safety • Maintain the aquarium and water quality	The job holder is expected to recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts. • For instance, the job holder has to sanitise and acclimatise the relevant items before setting up in the aquarium to avoid contamination; set up the aquarium structure by assembling and installing the required components such as reef,	4
Broad Learning Outcomes/Core Skill	• Assist the farmer with documentation for the loan application • Prepare the loan application file • Monitor the repayment of the loaned amount	The job holder is expected to organise all the relevant forms required for the loan application, assist the eligible farmers with the paperwork, such as filling in the loan application forms and informing them about the required documents, carry out documentation, capturing all the required information for the purpose of taking the loan, preferred loan term, repayment schedule, etc, for the purpose of taking the loan, preferred loan term, repayment schedule, etc, prepare a loan application file containing all the required documents such as creditworthiness report and submit it to the credit officer for the processing of the loan application, organise meetings with borrowing farmers regularly to check if they are facing any issues with loan repayment, and address any queries or concerns, process cash payments as per the organisational process, perform effective Customer Relationship	4

		Management (CRM) with farmers for the timely payment of loan EMIs, assist the farmers in restructuring of short-term loans during times of adversities, as per the applicable guidelines. rocks, pebbles, etc.; fill the aquarium with the recommended quantity of treated water for the selected species.; acclimatise the fish before stocking in the aquarium; feed the aquarium fish with nutritionally balanced feed as per the feeding schedule; carry out a regular sampling of the water to ensure the recommended levels of pH, ammonia, nitrite and salinity; carry out cleaning of the aquarium to remove feed residue and any waste material from the aquarium; treat the quarantined fish with the prescribed treatment.	
Responsibility	• Set up and manage marine aquarium • Set up and manage freshwater aquarium (including garden ponds) • Undertake basic entrepreneurial activities for small enterprise • Follow the relevant employability and entrepreneurial practices • Communicate effectively at the workplace • Ensure safety, hygiene and sanitation practices in aquascaping	For setting up the marine/ freshwater aquarium, individual on the job must be able to: 1. arrange the necessary resources to set up the marine/ freshwater aquarium such as aquarium tank, air pump, protein skimmer, heater and thermometer, etc.; 2. sanitise and acclimatise the relevant items before setting up in the aquarium to avoid contamination; 3. set up the aquarium structure by assembling and installing the required components such as reef, rocks, pebbles, etc.; 4. install timers to automate the functioning of lights, filtration pumps and heating system; 5. follow the safety guidelines in setting up the marine and freshwater aquariums including electrical connections for stocking and feeding the	4

		fish, individual on the job must be able to : 1. fill in the aquarium with the recommended quantity of treated water for the selected species; 2. stock the selected varieties of aquarium fish maintaining the recommended stocking density; 3. acclimatise the fish before stocking in the aquarium and take appropriate measures to protect them from new tank syndrome; 4. feed the aquarium fish with nutritionally-balanced feed in the recommended quantity as per the feeding schedule For maintaining the aquarium and water quality, individual on the job must be able to : 1. maintain the recommended percentage and frequency of water exchange/ replacement in the aquarium; 2. stock organisms in the aquarium that help in cleaning the reef system by consuming ectoparasites and feed residues; 3. carry out regular sampling of the water to ensure the recommended levels of pH, ammonia, nitrite and salinity; 4. monitor the reef system in the aquarium for parasites and any undesirable growth that may threaten the balance of the reef system; 5. check the protein skimmers and filtration equipment for correct functioning to ensure efficient removal of waste matters and optimum	
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		water quality in the aquarium; carry out regular cleaning of the aquarium to remove feed residue and any waste materials	
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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	Video Recording Equipment	Nos	1
2	Salinometer	Nos	1
3	pH Meter	Nos	1
4	Siphoning pipes	Meters	1
5	Aeration pipes	Meters	1
6	Protein skimmer	Nos	1
7	Face Mask	Nos	30
8	Erythromycin capsules	Strips	1
9	Disinfectants	Nos	1
10	Motors for Garden Pond	Nos	1
11	Water Pump	Nos	1
12	Air /Oxygen diffusers	Nos	1
13	Aerators	Nos	1
14	Tubes	Nos	3
15	Water Testing Kit	SET	1
16	Mechanical filters	Nos	1
17	Forceps	PAIR	1
18	Dropper	Nos	1
19	Dip Net / Harvesting Gear	SET	1
20	Hospital Tanks	Nos	1
21	Additional Glass Tanks	Nos	1
22	Hand lens	Nos	1
23	Chemical storage bottles	Nos	2
24	Hand gloves	Nos	30
25	Oxygen cylinders	Nos	1
26	Vit.B12	Strips	1

27	Oxygen tablets	Strips	1
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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	ELIM CHEM PRIVATE LTD	Dr. Narasimha Murty Kinjarapu	GM-Technical & Product Development Manager	East Godavari	9885867640	narasimhaau@gmail.com	
2	SP Agrico India Private Limited	Susanta Kumar Pradhan	Managing Director	Bhubaneswar	7008663158	sushan_pradhan58@rediffmail.com	
3	Aum Academia Private Limited	Damodar Satapathy	Director	Bhubaneswar	9861077340	dsp1959satapathy@gmail.com	
4	KVK, Changlang	Dr. Devendra Singh Chhonkar	Senior Scientist & Head	Jairampur	8119976400	kvkchanglang@gmail.com	
5	Aum Academia Private Limited	Damodar Satapathy	Director	Bhubaneswar	9861077340	dsp1959satapathy@gmail.com	
6	KVK, Sonapur	Dr. Biswa Ranjan Pattnaik	Senior Scientist & Head	Sonapur	8249447374	kvksonepur.ouat@gmail.com	
7	KVK, Sundargarh-II	Dr. Jayanta Kumar Pati	Senior Scientist & Head	Rourkela	8249338822	kvksundargarh2.ouat@gmail.com	
8	KVK, Dhenkanal	Dr. Bimalendu Mohanty	Senior Scientist and Head	Dhenkanal	9861118241	kvk.dhenkanal@ouat.ac.in	

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
2025-26	500					
2026-27	500					
2027-28	1000					

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
	2024-25												
3.0	2023-24	42	42	42		12	12	12					
3.0	2022-23	42	41	40		15	15	15		2	2	2	

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. FEE BASED- RPL
2. RPL

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/N5115: Set up and manage	<i>Set up and maintain marine aquarium</i>	22	30	-	24
	PC1. arrange the necessary resources to set up the marine				

marine aquarium	aquarium such as aquarium tank, air pump, protein skimmer, heater and thermometer, sand/substrate, live rocks, equipment, artificial sea water, marine organisms, filter system, powerhead etc.	-	-	-	-
	PC2. Identify commercially important marine ornamental fishes and invertebrates kept in a marine aquarium set up and select compatible species for multi species aquarium	-	-	-	-
	PC3. sanitise and acclimatise the relevant items before setting up in the aquarium to avoid contamination				
	PC4. set up the aquarium structure by assembling and installing the required components such as reef, rocks, pebbles, water inlet and water outlets, air inlets, lighting, filtration etc.				
	PC5. ensure appropriate water quality required for marine organisms for aquarium keeping				
	PC6. ensure provision of nutritionally balanced fish feed, optimal feeding method and frequency				
	PC7. follow the national laws on keeping of marine organisms in captivity				
	PC8. prepare the artificial sea water using synthetic salts				
	PC9. setup and maintain different equipment including protein skimmer, UV sterilisers, RAS, filters, lights etc, appropriately				
	PC10. set up various types of marine aquarium viz; only fish tank, FOWLR aquarium or a reef tank				
	PC11. decide and introduce the compatible species of marine organism in aquarium				
	PC12. stock the selected varieties of aquarium fish maintaining the recommended stocking density				
	PC13. mature appropriately an aquarium tank before introduction of fishes				
	PC14. maintain the reef system in a sustainable condition				
	PC15. monitor the reef system for any undesirable growth, parasites or any substance that may threaten the balance of the reef system				

	PC16. check the aquarium water for important parameters viz, salinity, pH, ammonia, nitrate, nitrite etc.				
	PC17. monitor the environmental parameters periodically				
	PC18. operate and set up various timers for operating lighting, filtration pumps and heating if any				
	PC19. introduce organisms that help clean the reef system by removing ecto-parasites				
	PC20. provide partitions to keep predatory fishes separately from other species				
	PC21. maintain nutrient status of live reef aquaria with nutrient top up				
	PC22. monitor and identify symptoms of common illnesses and ailments and take timely corrective action				
	PC23. carry out short term and long-term maintenance activities for a marine aquarium.				
	PC24. maintain successfully all types of marine aquarium				
	PC25. dispose of the waste in a safe and environment friendly manner				
	Ensure proper health management of fish in marine aquarium	8	10	-	6
	PC26. observe the behavior and movement of aquarium fishes in tanks regularly				
	PC27. monitor and identify symptoms of common illnesses and ailments and take timely corrective action				
	PC28. separate the diseased fish from the healthy fish and put them in a hospital tank, in case of disease outbreak				
	PC29. diagnose the problem/disease and treat appropriately				
	PC30. monitor the condition of fish in the hospital tank for signs of improvement				
	NOS Total	30	40		30
AGR/N5116: Set up and manage freshwater aquarium (including planted aquarium and	<i>Set up and maintain freshwater aquarium, planted aquarium and garden ponds</i>	22	30	-	24
	PC1. source all the components required for the aquarium as per the specifications	-	-	-	-
	PC2. clean each piece of equipment, acclimatize and prepare it				

garden ponds)	for immersion into the aquarium	-	-	-	-
	PC3. set up the complete aquarium structure with air inlets, lighting, filtration system	-	-	-	-
	PC4. identify different types of commercially important freshwater ornamental fishes.	-	-	-	-
	PC5. identify the prohibited varieties of freshwater ornamental fishes that cannot be traded	-	-	-	-
	PC6. provide nutritionally balanced feed to fishes, decide the type of feed and feeding frequency	-	-	-	-
	PC7. follow the method, frequency and percentage of water exchange within aquarium	-	-	-	-
	PC8. fabricate an aquarium tank and select compatible species for a community tank.	-	-	-	-
	PC9. apply appropriate methods of water quality testing and monitoring for a freshwater aquarium	-	-	-	-
	PC10. Install suitable type of water quality monitoring, life support systems and decorative items in aquarium.	-	-	-	-
	PC11. install and maintain successfully a freshwater aquarium.	-	-	-	-
	PC12. ensure proper working of pick-up filters for removing waste matter	-	-	-	-
	PC13. monitor for any undesirable growth, parasites or anything that may threaten the balance of the aquarium	-	-	-	-
	PC14. use water conditioners to remove traces of chlorine etc. from the water to be used in the aquariums	-	-	-	-
	PC15. operate and set up various timers for operating lighting and heating systems, if any	-	-	-	-
	PC16. ensure filtration is being done on a continuous basis	-	-	-	-
	PC17. fill in the aquarium with the recommended quantity of treated water for the selected species	-	-	-	-
	PC18. stock the selected varieties of aquarium fish maintaining the recommended stocking density	-	-	-	-
	PC19. acclimatise the fish before stocking in the aquarium and take appropriate measures to protect them from new tank syndrome	-	-	-	-

	PC20. introduce organisms that will help clean the aquarium of waste residues	-	-	-	-
	PC21. monitor and identify symptoms of common illnesses and ailments and take timely corrective action	-	-	-	-
	PC22. quarantine the newly purchased fish to aquarium conditions before it is introduced to aquarium	-	-	-	-
	PC23. identify different types of aquatic plants used in a planted aquarium	-	-	-	-
	PC24. select suitable substrate for a planted tank and ensure supply of nutrients for the growth of plants				
	PC25. select compatible species of fishes for a planted tank and successfully maintain a planted aquarium				
	PC26. plan, design, construct and maintain a garden pond				
	PC27. introduce suitable varieties of plants, fish and other animals for decorating and keeping in a garden pond				
	<i>Ensure proper health management of fish in freshwater aquarium, planted tank and garden pond</i>	8	10	-	6
	PC28. identify the symptoms of stress and common diseases among the aquarium fish	-	-	-	-
	PC29. check for diseased or dying fish	-	-	-	-
	PC30. identify and quarantine the diseased or dying fish	-	-	-	-
	PC31. separate the diseased fish from the healthy fish and put them in a hospital tank , in case of disease outbreak	-	-	-	-
	PC32. diagnose the problem/disease and treat appropriately	-	-	-	-
	PC33. monitor the quarantined fish for signs of improvement and restock them with the aquarium fish once cured				
	NOS Total	30	40	-	30
AGR/N5117: Ensure safety, hygiene and sanitation	<i>Follow biosecurity protocols and ensure safety, hygiene in marine and freshwater aquariums(including garden ponds)</i>	20	30	-	20
	PC1. carry out procedures in place to protect ornamental aquatic organisms (fish, invertebrate or plant) from contracting,	-	-	-	-

practices in aquascaping	carrying or spreading disease				
	PC2. identify the associated hazards by pathogens that might arrive or get transferred in the system and their appropriate method of management or elimination and critical control points associated with them	-	-	-	-
	PC3. plan and set up the structure of aquarium system and its electrical connections keeping in mind guidelines of safety	-	-	-	-
	PC4. ensure each artefact planned for the marine or freshwater aquarium system is acclimatized and cured to specifications that support and sustain the ecosystem				
	PC5. ensure the proper introduction of artefacts, at appropriate times so the ecosystem gradually acclimatizes to each of them	-	-	-	-
	PC6. conduct tests to check water quality ph, ammonium, nitrite levels and salinity	-	-	-	-
	PC7. exchange appropriate percentages of the water at regular intervals	-	-	-	-
	PC8. ensure routine cleaning and inspections of the entire system	-	-	-	-
	PCPC9. Check regularly the signs to look for that might indicate a disease issue viz. Loss of appetite, and loss of body weight, Skin ulcers and eroded fins, Loss of bright colours, Bloated belly, Loss of buoyancy control, Abnormal swimming behaviour, Bulged out eyes etc. 9. arrange a safe mode of transport to deliver fish to the aggregators/ buyers	-	-	-	-
	PC10. monitor the accretion of waste at the bottom of tank and establish a routine to remove them	-	-	-	-
	PC11. ensure all filters and fittings camouflaged by artefacts are routinely checked and kept in good working order	-	-	-	-

	PC12. establish a feeding routine and choice of feed for all types of aquatic life in the aquarium	-	-	-	-
	PC13. ensure the introduction of beneficial organisms that help maintain the sustainability of the aquarium				
	PC14. quarantine and condition any new fish before introducing in tanks for better biosecurity				
	PC15. ensure maturation of the tanks before introducing new fishes to prevent new tanks syndrome				
	PC16. follow the recommended practices to protect the aquarium from different types of threats , contamination and diseases				
	PC17. apply the necessary disinfectants or preventive treatment in the aquarium to prevent disease outbreak and the growth of harmful organisms				
	PC18. sample the water quality and fishes grown in aquarium regularly to identify the signs of stress/ disease/ phenotypic disorders and the presence of parasites and pathogens				
	PC19. identify, quarantine and treat the unhealthy organisms following the recommended practices				
	PC20. monitor the quarantined organisms for signs of improvement and restock them in aquarium on complete recovery				
	PC21. remove the dead and moribund organisms and dispose them in an environment-friendly manner and do not release aquarium fish into waterways or stormwater drains				
	PC22. maintain records of water quality, fish health, feed supplied etc.				

PC23. maintain the health of the fish's own immune system by appropriate husbandry including resting/acclimatization periods				
PC24. avoid unnecessary stressing of fish eg over or under stocking depending on species, using correct transport and handling methods				
PC25. sterilize the systems regularly as per requirements				
PC26. follow the biosecurity protocols correctly at all stages				
Maintain personal hygiene and safety	10	10	-	10
PC27. be aware of the possibilities of bacterial and other contamination from human handling of fish				
PC28. use the recommended soap or sanitiser to keep hands sanitised				
PC29. undertake basic safety checks before operation of any equipments				
PC30. check the relevant Personal Protective Equipment (PPE) before use and repair or replace it, as required				
PC31. use the relevant PPE during various aquaculture operations such as the application of hazardous chemicals				
PC32. exercise caution when handling electrical/lighting equipment in the tank				
PC33. report potential hazards to the supervisor immediately				
PC34. follow standard procedures to deal with accidents and emergency situations				
PC35. administer first-aid to the injured personnel and co-ordinate with the emergency services for further medical				

DGT/VSQ/N0103: Employability Skills (90 Hours)	attention				
	PC36. store hazardous chemicals, tools and equipment in the safe storage area to avoid personal harm or injury				
	NOS Total	30	40	-	30
	<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	-	-	-	-
	NOS Total	20	30		

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

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.

- 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

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

- 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-Stamped 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

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