



Model Curriculum

QP Name: Aquatic Animal Health Lab Technician

QP Code: AGR/Q4911

Version: 3.0

NSQF Level: 5

Model Curriculum Version: 2.0

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

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Training Parameters

Sector	Agriculture
Sub-Sector	Fisheries
Occupation	Aquaculture
Country	India
NSQF Level	5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL
Minimum Educational Qualification and Experience	<p>Minimum Educational Qualification: Completed 2nd year of UG OR Pursuing 2nd year of UG and continuous education OR Completed 2nd year of diploma (after 12th) OR Pursuing 2nd year of 2-year diploma after 12th OR 12th pass with 1-year Vocational Education & training (NTC or NAC or CITS) OR Completed 3-year diploma after 10th with 1- year relevant experience OR 12th Grade pass with 2- year relevant experience OR 10th Grade pass with 4-year relevant experience OR Previous relevant Qualification of NSQF Level 4 and with minimum education as 8th Grade pass with 3-year relevant experience OR Previous relevant Qualification of NSQF Level 4.5 with 1.5- year relevant experience</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	20 Years
Last Reviewed On	31/03/2022

Next Review Date	31/03/2025
NSQC Approval Date	31/03/2022
QP Version	3.0
Model Curriculum Creation Date	31/03/2022
Model Curriculum Valid Up to Date	31/03/2025
Model Curriculum Version	2.0
Minimum Duration of the Course	480 Hours
Maximum Duration of the Course	480 Hours

Program Overview

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

Training Outcomes

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

- Describe the process of supervising the preparation of lab and lab equipment.
- Describe the process of supervising the laboratory operations.
- Describe the process of undertaking employability and entrepreneurial practices.
- Describe the process of managing and leading a team.
- Demonstrate various practices to ensure health, hygiene and safety during culture operations.

Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	05:00	0:00	0:00	0:00	05:00
Module 1: Introduction to the role of an Aquatic Animal Health Lab Technician	05:00	0:00	0:00	0:00	05:00
AGR/N4939 Supervise the preparation of lab and lab equipment NOS Version- 2.0 NSQF Level-5	25:00	60:00	0:00	0:00	85:00
Module 2: Supervision of the preparation of lab and lab equipment	25:00	60:00	0:00	0:00	85:00
AGR/N4940 Supervise the laboratory operations NOS Version- 2.0 NSQF Level-5	20:00	70:00	0:00	0:00	90:00

Module 3: Process of supervising the laboratory operations	20:00	70:00	0:00	0:00	90:00
AGR/N4967: Maintain the periodic data of the aquatic animal health lab NOS Version- 2.0 NSQF Level-5	30:00	30:00	0:00	0:00	60:00
Module 4: Maintaining the periodic data of the aquatic animal health lab	30:00	30:00	0:00	0:00	60:00
AGR/N9923 Manage and lead a team effectively NOS Version- 1.0 NSQF Level-6	20:00	10:00	0:00	0:00	30:00
Module 5: Process of managing and leading a team	20:00	10:00	0:00	0:00	30:00
AGR/N4918 Ensure health, hygiene and safety during culture operations NOS Version- 2.0 NSQF Level- 5	20:00	40:00	0:00	0:00	60:00
Module 6: Health, hygiene, and safety procedures	20:00	40:00	0:00	0:00	60:00
DGT/VSQ/N0103 Employability Skills NOS Version-1.0 NSQF Level-5	90:00	00:00	0:00	0:00	90:00
Module 9: Employability Skills	90:00	00:00	0:00	0:00	90:00
Total Duration	210:00	210:00	0:00	0:00	420:00
OJT: 60 hours					

Module Details

Module 1: Introduction to the role of an Aquatic Animal Health Lab Technician

Bridge Module

Terminal Outcomes:

- Discuss the job role of an Aquatic Animal Health Lab Technician.

Duration: 05:00	Duration: 0:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the size and scope of the Agriculture industry and its sub-sectors. • Discuss the role and responsibilities of an Aquatic Animal Health Lab Technician. • Identify various employment opportunities for an Aquatic Animal Health Lab Technician. 	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Supervision of the preparation of lab and lab equipment

Mapped to AGR/N4939 v2.0

Terminal Outcomes:

- Describe the process of supervising the preparation of lab.
- Describe the process of supervising the calibration and maintenance of the lab equipment.

Duration: 25:00	Duration: 60:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List various resources required for lab operations. • Explain the importance of sterilising the lab and the lab tools and equipment using an appropriate disinfect. • Explain the importance of ensuring that the lab doesn't have any consumables and flammable items. • Describe the process of disposing the expired chemicals, reagents, microbiological media and other lab waste in compliance with the applicable regulations. • Explain various microbiological and safety hazards found in a lab and how to deal with them. • Explain the use of relevant lab equipment for aquatic animal health lab experiments. • State the applicable laboratory procedures to be followed while handling the lab tools, equipment, dead weights, measuring jars and reagents. • Explain the importance of ensuring maintenance of all lab tools and equipment as per their maintenance schedule. 	<ul style="list-style-type: none"> • Demonstrate the process of sterilizing the lab with the appropriate disinfect and setting up various lab equipment for use. • Demonstrate the process of calibrating the lab equipment in accordance with the tolerances prescribed by the manufacturer. • Demonstrate the process of handling and using the lab tools, equipment, dead weights, measuring jars and reagents. • Demonstrate the process of labelling the calibrated equipment for the purpose of identification. • Show how to test the lab equipment to ensure they are in working condition. • Demonstrate the process of repairing or replacing the malfunctioning, worn-out or damaged lab equipment and accessories.
Classroom Aids	

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

Tools, Equipment and Other Requirements

Module 3: Process of supervising the laboratory operations

Mapped to ARG/N4940 v2.0

Terminal Outcomes:

- Describe the process of supervising various lab experiments and research projects.
- Describe the process of supervising the maintenance of live specimens and stock cultures.
- Describe the process of managing the lab inventory.
- Demonstrate various practices for effective resource optimisation.
- Demonstrate various waste management practices.
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 20:00	Duration: 70:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • State the necessary precautions to be taken while conducting lab experiments. • Explain the applicable regulations about ensuring the health of aquatic animals. • Explain the recommended practices to be followed to avoid adverse impact on animal health and the environment as a result of aquatic animal health research. • Explain the importance of ensuring the availability of specific instructional materials and supplies required for different types of research projects. • Describe the process of conducting diagnostics operations and targeted research projects in the lab. • Explain the importance of ensuring the pathogen detection test results are accurate and consistent. • Explain the importance of ensuring the laboratory testing of aquatic animals is conducted as per the applicable national and international animal health standards and 	<ul style="list-style-type: none"> • Demonstrate the process of carrying out diagnostics operations and targeted research projects in the lab. • Demonstrate the process of developing standardized diagnostic tests for designated pathogens. • Demonstrate the process of carrying out various tests at the lab such as pH, salinity, oxygen, ammonium, nitrate, nitrite, alkalinity. • Show how to prepare microbiological plates and slants. • Demonstrate the process of sanitising the lab equipment after use. • Prepare a sample record relating to the health of aquatic animals before and after the experiments in logbooks and the relevant computer application. • Prepare a sample research project report based on the data collected during various experiments. • Demonstrate the process of analysing the project report. • Prepare a sample manual and/ or electronic record of the purchase of

<p>regulations.</p> <ul style="list-style-type: none"> • Explain how to research to improve the disease detection techniques and control methods in aquatic animals. • Describe the process of preparing microbiological plates and slants and slides for the histological study of aquatic animal cells and tissues. • Describe the process of preparing and analyzing the research project reports to provide scientific advice on matters relating to the health of aquatic animals. • Explain how to maintain the stock culture as per the laboratory protocols. • Describe the process of making the culture population strains. • Explain the importance of maintaining the water quality and live specimens of aquatic animals as per the defined quality standards. • Describe the process of managing the lab inventory. • Explain the benefits of resource optimisation. • Explain the importance of recycling and disposing different types of waste as per the applicable regulations. • Explain the importance of inclusion of all genders and People with Disability (PwD) at the workplace. 	<p>lab supplies.</p> <ul style="list-style-type: none"> • Demonstrate various practices to optimise the usage of various resources such as water and electricity. • Demonstrate the process of recycling and disposing different types of waste appropriately. • Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.
Classroom Aids	
Training Kit (Trainer guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Aquarium, Aerators Filters -Autoclave, Electronic Balance, Magnetic Stirrer. Petri Plates, Test Tubes, Cotton, Microbiological Media, Slides, Cover Slips, Pipettes. -Refractometer, Water And	

Module 4: Maintaining the periodic data of the aquatic animal health lab

Mapped to AGR/N4967 v1.0

Terminal Outcomes:

- Explain the importance and process of recording the periodic data of the aquatic animal health lab.
- Explain the importance of evaluating and reviewing the data and recording the progress.
- Demonstrate the use of relevant computer software to maintain data and its backup.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance of recording the periodic data of the animal health lab concerning the lab experiments and research projects • Describe the process of recording data in the approved format, both manually and electronically • Explain the importance of recording the aquatic animal health lab periodic data at the scheduled intervals • Explain the importance and process of checking the accuracy of data, identifying discrepancies and taking appropriate measures to ensure the correctness of the data. • Explain the importance and process of maintaining the backup of the recorded data to protect against accidental loss. • Describe the process of evaluating the recorded data to get insights and draw appropriate conclusions. • List the relevant reports to be 	<ul style="list-style-type: none"> • Demonstrate the use of relevant computer software for maintaining data. • Demonstrate the process of maintaining the backup of data.

<p>prepared concerning the data evaluation as per the organisational requirements.</p> <ul style="list-style-type: none"> • Explain the importance of reviewing the data with the relevant stakeholders to identify the scope of improvement in the aquatic animal health lab operations and the need for new experiments and research projects. 	
<ul style="list-style-type: none"> • Explain the importance of maintaining records concerning the agreed actions as per the data review • Explain the importance of monitoring and recording the progress of the initiated action or project to determine its effectiveness. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>NA</p>	

Module 5: Process of managing and leading a team

Mapped to NOS AGR/N9923 v1.0

Terminal Outcomes:

- Explain different ways to manage team performance and maintain a fair and professional work environment.
- Explain different ways to promote diversity and inclusion at work.

Duration: 20:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the process of preparing a work plan and allocating tasks according to the roles and skills of team members. • Explain the importance of arranging necessary support and resources to help the team members perform their duties. • Explain the importance of conducting regular team meetings to communicate with the team members regarding their work objectives, projects, work progress, etc. • Explain the importance and process of monitoring the team performance. • Explain various practices to manage and improve team performance. • Explain the importance of maintaining professional relationships with the team members. • Explain the importance and process of resolving conflicts among the team members. • Define the need for appropriate verbal and non-verbal communications while interacting with all genders and PwD. 	<ul style="list-style-type: none"> • Prepare a sample work plan according to allocate tasks to the team members. • Roleplay to conduct counselling sessions with team members. • Prepare sample work performance and review reports. • Demonstrate various practices required to maintain a conducive environment for Persons with Disabilities (PwD) and all genders at work.
Classroom Aids:	

Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator’s Guide, Participant’s Handbook.

Tools, Equipment and Other Requirements

NA

Module 6: Health, hygiene and safety procedures

Mapped to AGR/N4918 v2.0

Terminal Outcomes:

- Demonstrate various practices to maintain the upkeep of water body, tools and equipment.
- Describe how to adhere to personal hygiene and safety practices.
- Demonstrate ways to maintain the health of cultured organisms.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain various practices to protect the aquaculture farm and dykes from erosion and natural calamities. • Describe the process of protecting the cultured organisms from water/ air/ fomite borne diseases and contamination from handling. • Describe the process of identifying and eliminating common predators and preying organisms in the water body. • Explain the importance of fencing to protect the water body from external threats. • State measures that can be taken to prevent the escape of cultured organisms from the culture pond/ tank. • Explain the importance and process of conducting regular tests to maintain the recommended soil and water quality parameters in the water body. • Explain the importance of cleaning and decontaminating the nets, vessels, tools and equipment. • List basic safety checks to be undertaken before operating any tools and equipment. 	<ul style="list-style-type: none"> • Show how to eliminate common predators and preying organisms from the water body. • Demonstrate the process of erecting fences to protect the water body from external threats. • Demonstrate the process of cleaning and decontaminating the nets, vessels, tools and equipment. • Demonstrate personal hygiene practices to be followed. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Demonstrate the administration of first aid. • Show how to apply the necessary medicines/ chemicals as per prescription, maintaining the toxicity levels within the prescribed limits. • Demonstrate the process of using therapeutic practices for the speedy recovery of diseased organisms. • Demonstrate the process of disposing dead and diseased organisms.

<ul style="list-style-type: none"> • Describe the common first aid procedures to be followed in case of emergencies. • Describe standard procedures to deal with accidents and emergencies. • State various recommended prophylactic measures to prevent disease among cultured organisms. • Describe the process of examining the cultured organisms to detect the symptoms of parasites, pathogenic infections, phenotypic disorders, etc. • Describe the process of applying medicines/ chemicals while maintaining the toxicity levels within the prescribed limits. • Describe the process of identifying diseased organisms, quarantining and treating them. • Explain the importance and process of removing and disposing the dead and moribund organisms from the water body. 	
<p>Classroom Aids</p>	
<p>Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator’s Guide, Participant’s Handbook.</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask</p>	

Module 7: Employability Skills (90 hours)

Mapped to NOS DGT/VSQ/N0103 v1.0

Duration: 90:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 3 Hours

After completing this programme, participants will be able to:

1. Outline the importance of Employability Skills for the current job market and future of work
2. List different learning and employability related GOI and private portals and their usage
3. Research and prepare a note on different industries, trends, required skills and the available opportunities

Constitutional values - Citizenship Duration: 1.5 Hours

4. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
5. Demonstrate how to practice different environmentally sustainable practices

Becoming a Professional in the 21st Century Duration: 5 Hours

6. Discuss relevant 21st century skills required for employment
7. Highlight the importance of practicing 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life
8. Create a pathway for adopting a continuous learning mindset for personal and professional development

Basic English Skills Duration: 10 Hours

9. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
10. Read and understand text written in basic English
11. Write a short note/paragraph / letter/e-mail using correct basic English

Career Development & Goal Setting Duration: 4 Hours

12. Create a career development plan
13. Identify well-defined short- and long-term goals

Communication Skills Duration: 10 Hours

14. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette
15. Write a brief note/paragraph on a familiar topic
16. Explain the importance of communication etiquette including active listening for effective communication
17. Role play a situation on how to work collaboratively with others in a team

Diversity and Inclusion Duration: 2.5 Hours

18. Demonstrate how to behave, communicate, and conduct appropriately with all genders and PwD

19. Discuss the significance of escalating sexual harassment issues as per POSH act

Financial and Legal Literacy Duration: 10 Hours

20. Discuss various financial institutions, products, and services

21. Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement

22. Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deductions

23. Calculate income and expenditure for budgeting

24. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 20 Hours

25. Describe the role of digital technology in day-to-day life and the workplace

26. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely

27. Demonstrate how to connect devices securely to internet using different means

28. Follow the dos and don'ts of cyber security to protect against cyber crimes

29. Discuss the significance of displaying responsible online behavior while using various social media platforms

30. Create an e-mail id and follow e-mail etiquette to exchange e-mails

31. Show how to create documents, spreadsheets and presentations using appropriate applications

32. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

33. Explain the types of entrepreneurship and enterprises

34. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan

35. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement

36. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 9 Hours

37. Classify different types of customers

38. Demonstrate how to identify customer needs and respond to them in a professional manner

39. Discuss various tools used to collect customer feedback

40. Discuss the significance of maintaining hygiene and dressing appropriately

Getting ready for apprenticeship & Jobs Duration: 8 Hours

41. Draft a professional Curriculum Vitae (CV)

42. Use various offline and online job search sources to find and apply for jobs

43. Discuss the significance of maintaining hygiene and dressing appropriately for an interview

44. Role play a mock interview
45. List the steps for searching and registering for apprenticeship opportunities

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Fisheries	3	Aquatic Animal Health Lab			Regular Diploma more than 15 months in fisheries
Graduate	Zoology / microbiology	3	Aquatic Animal Health Lab			For the school Program minimum qualification of the trainer should be Graduate (Fisheries Science/Industrial Fish & Fisheries / Zoology) with minimum 3 years teaching experience (will be considered industry experience)
Graduate	Agriculture / Fisheries / Marine biology	2	Aquatic Animal Health Lab			
B.F. Sc						
Trainer Certification						
Domain Certification				Platform Certification		
Certified for Job Role “ Aquatic Animal Health Lab Technician ” mapped to QP: “AGR/Q4911, v3.0”, Minimum accepted score is 80%				Recommended that the Trainer is certified for the Job Role: “Trainer (Vet and Skills)”, mapped to the Qualification Pack: “MEP/Q2601, v2.0”. The minimum accepted score as per MEPSC guidelines is 80%.		

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
B.F. Sc		4	In Fisheries Science/ Aquaculture/ Applied Aquaculture or related streams			Practical skills and knowledge required in maintaining, handling and ensuring compliance in lab equipment
B.Sc.	Fisheries and related streams	5	In Fisheries Science/ Aquaculture/ Applied Aquaculture or related streams			Practical skills and knowledge required in maintaining, handling and ensuring compliance in lab equipment
M.F. Sc		2	In Fisheries Science/ Aquaculture/ Applied Aquaculture or related streams			Practical skills and knowledge required in maintaining, handling and ensuring compliance in lab equipment
M.Sc	Fisheries/ Applied Aquaculture and related streams	2	In Fisheries Science/ Aquaculture/ Applied Aquaculture or related streams			Practical skills and knowledge required in maintaining, handling and ensuring compliance in lab equipment
PhD	Fisheries Science/ Aquaculture and related streams	1	In Fisheries Science/ Aquaculture/ Applied Aquaculture or related streams			Practical skills and knowledge required in maintaining, handling and ensuring compliance in lab equipment

Assessor Certification	
Domain Certification	Platform Certification

Certified for Job Role “**Aquatic Animal Health Lab Technician**” mapped to QP: “AGR/Q4911, v3.0”, Minimum accepted score is 80%

Certified for the Job Role: “Assessor (Vet and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, v2.0”, with a minimum score of 80%.

Assessment Strategy

Assessment System Overview

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

1. 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 the ground through qualified and ToA certified assessors.

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

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

Testing Environment

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

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

- Multilingual assessments (ASCI is conducting the assessments in 13 + languages pan India)
- Rubric driven assessments in Practical/Viva sections and responses recorded accordingly
- All responses, data, records and feedback stored digitally on the cloud

- Advanced auto-proctoring features – photographs, time-stamp, geographic-tagging, toggle- screen/copy-paste disabled, etc.
- Android-based monitoring system
- End to end process from allocation of a batch to final result upload, there is no manual intervention
- Assessment will normally be fixed for a day after the end date of the training / within 7 days of completion of training.
- Assessment will be conducted at the training venue
- The room where assessment is conducted will be set with proper seating arrangements with enough space to curb copying or other unethical activities
- Question bank of theory and practice will be prepared by ASCI /assessment agency and approved ASCI. Only from approved Question Bank assessment agency will prepare the question paper. Theory testing will include multiple-choice questions, pictorial questions, etc. which will test the trainee on his theoretical knowledge of the subject.

Assessment			
Assessment Type	Formative or Summative	Strategies	Examples
Theory	Summative	MCQ/Written exam	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks/Demonstration	Practical application /Demonstration /Application tasks

Viva	Summative	Questioning and Probing	Mock interviews on the usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling the job situation
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- The theory, practical and viva assessments will be carried out on the same day. In case of a greater number of candidates, the number of assessors and venue facilitation be increased and facilitated

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

Assessment Quality Assurance framework

Assessment Framework and Design:

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

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

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

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

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

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

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

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

Type of Evidence and Evidence Gathering Protocol:

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

- GeoTagging to track ongoing assessment

- AA's coordinator emails the list of documents and evidence (photos and videos) to the assessor one day before the assessment. The list is mentioned below:
 - Signed Attendance sheet
 - Assessor feedback sheet
 - Candidate feedback sheet
 - Assessment checklist for assessor
 - Candidate Aadhar/ID card verification
 - Pictures of the classroom, labs to check the availability of adequate equipment's and tools to conduct the training and assessment
 - Pictures and videos of Assessment, training feedback and infrastructure.
- Apart from the Assessor, a Technical assistant is popularly known as Proctor also ensures the proper documentation and they verify each other's tasks.
- To validate their work on the day of the assessment, regular calls and video calls are done.
- On-boarding and training of the assessor and proctor are done on a timely basis to ensure that the quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

Methods of Validation

- Morning Check (Pre-Assessment): Backend team of AA calls and confirms assessor/technical SPOC event status. Assessor/Technical SPOC are instructed to reach the centre on time by 9:30 AM / as decided with TC and delay should be highlighted to the Training Partner in advance.
- Video Calls: Random video calls are made to the technical SPOC/assessor so as to keep a check on assessment quality and ensure assessment is carried out in a fair and transparent manner
- Aadhar verification of candidates
- Evening Check (Post Assessment): Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.
- TP Calling: To keep a check on malpractices, an independent audit team calls the TP on a recorded line to take confirmation if there was any malpractice activity observed in the assessment on part of the AA/SSC team. If calls are not connected, an email is sent to TP SPOC for taking their confirmation
- Video and Picture Evidence: Backend team collects video and pictures for assessment on a real-time basis and highlights any issue such as students sitting idle/ trainer helping the candidates during the assessment.
- Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and

conduct a surprise audit for the assessment carried out by the ground team.

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

Method for assessment documentation, archiving, and Access:

- ASCI have a fully automated result generation process in association with multiple AAs
- Theory, Practical and Viva marks form the basis of the results and encrypted files generated to avoid data manipulation. All responses were captured and stored in the System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.
- Maker Checker concept: One person prepares the results and another audit result which is internally approved by AA at first and then gets vetted at the end of SSC
- All softcopies of documents are received from the on-ground tech team over email. The same is downloaded by our internal backend team and saved in Repository. The repository consists of scheme-wise folders. These scheme-wise folders have two job role-specific folders. These specific folders have Year wise and Month wise folders where all documents are saved in Batch specific folders. All Hard copies are filed and stored in the storeroom.

Result Review & Recheck Mechanism –

- Time-stamped assessment logs
- Answer/Endorsement sheets for each candidate
- Attendance Sheet
- Feedback Forms: Assessor feedback form, Candidate feedback form, TP feedback form
- The results for each of the candidates shall be stored and available for review (retained for 5 years/ till the conclusion of the project or scheme)

References

Glossary

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

Acronyms and Abbreviations

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