



# Model Curriculum

**QP Name: Seed Analysis In-Charge**

**QP Code: AGR/Q7103**

**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

<b>Sector</b>	Agriculture
<b>Sub-Sector</b>	Agriculture Industries
<b>Occupation</b>	Seed Production and Processing
<b>Country</b>	India
<b>NSQF Level</b>	5
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/2132
<b>Minimum Educational Qualification and Experience</b>	<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 &amp; 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>
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024
<b>NSQC Approval Date</b>	30/12/2021
<b>QP Version</b>	3.0

<b>Model Curriculum Creation Date</b>	30/12/2021
<b>Model Curriculum Valid Up to Date</b>	30/12/2024
<b>Model Curriculum Version</b>	2.0
<b>Minimum Duration of the Course</b>	480 Hours
<b>Maximum Duration of the Course</b>	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 preparing the lab, lab equipment and reagents.
- Demonstrate the process of sampling and testing seeds.
- Describe the process of maintaining the seed analysis records.
- Demonstrate various practices to ensure health and safety at work.
- Explain the importance of following the recommended inclusive practices for Persons with Disabilities (PwD) and all genders at work.
- Describe the process of managing and leading a team effectively.

### 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
<b>AGR/N7110 Supervise the preparation of the lab, lab equipment and reagents</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 5</b>	<b>30:00</b>	<b>30:00</b>	<b>0:00</b>	<b>0:00</b>	<b>60:00</b>
Module 1: Introduction to the role of a Seed Analysis In-Charge	05:00	0:00	0:00	0:00	05:00
Module 2: Preparation of lab, lab equipment and reagents	25:00	30:00	0:00	0:00	55:00
<b>AGR/N7112 Supervise the sampling and testing of seeds</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 5</b>	<b>30:00</b>	<b>60:00</b>	<b>0:00</b>	<b>0:00</b>	<b>90:00</b>
Module 3: Process of sampling and testing seeds	30:00	60:00	0:00	0:00	90:00
<b>AGR/N7113 Supervise the maintenance of seed analysis records</b>	<b>20:00</b>	<b>40:00</b>	<b>0:00</b>	<b>0:00</b>	<b>60:00</b>

<b>NOS Version- 2.0</b> <b>NSQF Level- 5</b>					
Module 4: Maintenance of seed analysis records	20:00	40:00	0:00	0:00	60:00
<b>AGR/N9911 Ensure adherence to health and safety guidelines at work</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 6</b>	<b>20:00</b>	<b>10:00</b>	<b>0:00</b>	<b>0:00</b>	<b>30:00</b>
Module 5: Health and safety at work	20:00	10:00	0:00	0:00	30:00
<b>AGR/N9923 Manage and lead a team</b> <b>NOS Version- 2.0</b> <b>NSQF Level- 6</b>	<b>20:00</b>	<b>10:00</b>	<b>0:00</b>	<b>0:00</b>	<b>30:00</b>
Module 6: Process of managing and leading a team	20:00	10:00	0:00	0:00	30:00
<b>DGT/VSQ/N0103</b> <b>Employability Skills</b> <b>NOS Version-1.0</b> <b>NSQF Level-5</b>	<b>90:00</b>	<b>00:00</b>	<b>0:00</b>	<b>0:00</b>	<b>90:00</b>
Module 9: Employability Skills	90:00	00:00	0:00	0:00	90:00
<b>Total Duration</b>	<b>210:00</b>	<b>150:00</b>	<b>120:00</b>	<b>0:00</b>	<b>480:00</b>

## Module Details

### Module 1: Introduction to the role of a Seed Analysis In-Charge

*Bridge Module, Mapped to AGR/N7110 v2.0*

#### Terminal Outcomes:

- Discuss the job role of a Seed Analysis In-Charge.

<b>Duration: 5:00</b>	<b>Duration: 0:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the size and scope of the agriculture industry and its sub-sectors.</li> <li>• Discuss the role and responsibilities of a Seed Analysis In-Charge.</li> <li>• Identify various employment opportunities for a Seed Analysis In-Charge.</li> </ul>	
<b>Classroom Aids</b>	
Training kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
<b>Tools, Equipment and Other Requirements</b>	
NA	



## Module 2: Preparation of lab, lab equipment and reagents

### Mapped to AGR/N7110 v2.0

#### Terminal Outcomes:

- Describe the process of preparing the lab for seed testing.
- Demonstrate the process of calibrating and maintaining the lab equipment.
- Demonstrate the process of preparing different types of reagents in the lab.
- Describe the process of managing the lab inventory.

Duration: 25:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List various resources required for conducting seed analysis in the lab such as Protective Equipment (PPE), lab equipment, reagents, etc.</li> <li>• Explain the importance of sanitising the lab and lab equipment.</li> <li>• Explain the importance of conducting regular maintenance of the lab equipment.</li> <li>• Explain various precautions to be taken to ensure a safe environment in the lab.</li> <li>• List various chemicals, solvents, acids, used to prepare different types of reagents.</li> <li>• State appropriate temperature and humidity required for seed testing and storing different types of reagents.</li> <li>• Explain the basic inventory management practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of disposing expired chemicals and solutions safely.</li> <li>• Demonstrate the process of calibrating various lab equipment as per the manufacturer and lab guidelines.</li> <li>• Show how to prepare different types of reagents using the relevant lab equipment.</li> <li>• Prepare a sample record of the maintenance of lab equipment.</li> <li>• Demonstrate the use of relevant computer application to manage the lab inventory.</li> </ul>
Classroom Aids	
Training kit (Trainer guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Chemicals for testing of Seed, Seed Moisture Meter. Hot Air Oven, Germination Chamber, Seed Trier, Magnifying Glasses, Forceps, Scalper Tray, Microscope, Germination Paper	



## Module 3: Process of sampling and testing seeds

### Mapped to ARG/N7112 v2.0

#### Terminal Outcomes:

- Demonstrate the process of sampling and testing seeds.
- Describe effective supervision practices to ensure resource optimisation and waste management.
- Demonstrate the applicable waste management and resource optimisation practices.

Duration: 30:00	Duration: 60:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• State the labelling requirements for seed lots received for testing in the laboratory.</li> <li>• Explain the sampling guidelines for drawing a sample from a seed lot.</li> <li>• Explain the criteria for segregating the seed sample into pure seeds, other crop seeds, weed seeds and inert matter.</li> <li>• Describe the process of screening seeds on physical characteristics such as colour, appearance, texture, etc.</li> <li>• Explain the need of conducting various tests in the process of conducting seed analysis.</li> <li>• State the appropriate conditions and the time duration required for the emergence and development of seedlings.</li> <li>• Explain the benefits of resource optimisation.</li> <li>• Explain the importance of recycling and disposing different types of waste as per the applicable regulations.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of analysing the physical composition of the seeds on parameters such as colour, appearance, texture, etc.</li> <li>• Demonstrate the process of carrying various tests for seed analysis such as germination test, Tetrazolium (TZ) test, genetic and varietal purity test, seed health test, etc.</li> <li>• Demonstrate various practices to optimise the usage of various resources such as water and electricity.</li> <li>• Demonstrate various practices for effective management and utilisation of various resources.</li> <li>• Show how to recycle and dispose different types of waste.</li> </ul>
<b>Classroom Aids</b>	
Training kit (Trainer guide, Presentations). Whiteboard, Marker, Projector, Laptop	
<b>Tools, Equipment and Other Requirements</b>	
Polybags to transfer the Samples, Seed Entry Register, Moisture Meter, Hot Air Oven (for Seed Drying), Seed Grinding Machine, Magnifying Glass, Forceps, Scalper, Trays	

## Module 4: Maintenance of seed analysis records

### Mapped to AGR/N7113 v2.0

#### Terminal Outcomes:

- Explain the importance of maintaining seed analysis records.
- Show how to maintain various seed analysis records.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List the relevant details to be recorded regarding the seeds lots received for testing such as details of the sample supplier, batch number, receiving date, etc.</li> <li>• List the details to be recorded regarding seed sampling such as physical composition, the quantity of pure seeds, sampling procedure, etc.</li> <li>• Explain the importance of maintaining the record of lab equipment calibration and maintenance.</li> <li>• Explain the importance of maintaining data backup to protect against accidental loss.</li> <li>• Explain the importance of reviewing and auditing the records to ensure they are up to date.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare sample records with respect to seed sampling and testing.</li> <li>• Demonstrate the use of relevant computer system to maintain records and data backup.</li> <li>• Show the process of reviewing records.</li> </ul>
Classroom Aids	
Training Kit (Trainer Guide, Presentations)	
Tools, Equipment and Other Requirements	
Seed Receipt Register, Lab Testing Card, Seed Analysis Report, Moisture Testing Register, Analysis Report Despatch Register, Guard Sample Register, Stock Ledger	

## Module 5: Health and safety at work

*Mapped to NOS AGR/N9911 v2.0*

### Terminal Outcomes:

- Demonstrate various practices to be followed to ensure health and safety at work.
- Describe different ways to deal with emergencies at work.

Duration: 20:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the importance of following health and safety procedures at work such as using Personal Protective Equipment (PPE).</li> <li>• Explain the importance of ensuring the PPE, emergency equipment and first-aid kit are usable and updated.</li> <li>• Explain the importance of sanitising the workplace, tools and equipment.</li> <li>• Explain the importance of ensuring only authorised personnel have access to hazardous work areas</li> <li>• Describe the process to be followed in case of emergencies such as fire, accidents, disease outbreak or natural calamities.</li> <li>• Explain how to identify health and safety hazards at the work and take appropriate preventive measures.</li> <li>• Describe the process of reporting workplace emergencies and accidents to the relevant authority in compliance with the organisational and regulatory requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the use of appropriate PPE.</li> <li>• Show how to sanitise the workplace along with the relevant tools and equipment.</li> <li>• Demonstrate safe handling of hazardous materials such as chemicals and flammable objects.</li> <li>• Show how to administer first aid to an injured person.</li> <li>• Demonstrate appropriate actions to take to deal with fire, accidents and emergencies.</li> <li>• Demonstrate the use of emergency equipment in accordance with the manufacturer's instructions.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitiser, Soap, Mask	

## Module 6: Process of managing and leading a team

### Mapped to NOS AGR/N4317 v2.0

#### 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"> <li>• Describe the process of preparing a work plan and allocating tasks according to the roles and skills of team members.</li> <li>• Explain the importance of arranging necessary support and resources to help the team members perform their duties.</li> <li>• Explain the importance of conducting regular team meetings to communicate with the team members regarding their work objectives, projects, work progress, etc.</li> <li>• Explain the importance and process of monitoring the team performance.</li> <li>• Explain various practices to manage and improve team performance.</li> <li>• Explain the importance of maintaining professional relationships with the team members.</li> <li>• Explain the importance and process of resolving conflicts among the team members.</li> <li>• Define the need for appropriate verbal and non-verbal communications while interacting with all genders and PwD.</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a sample work plan according to allocate tasks to the team members.</li> <li>• Roleplay to conduct counselling sessions with team members.</li> <li>• Prepare sample work performance and review reports.</li> <li>• Demonstrate various practices required to maintain a conducive environment for Persons with Disabilities (PwD) and all genders at work.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
NA	

## 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	Agriculture/ Seed technology	5	Seed Production and Processing	0		
Graduate		3	Seed Production and Processing	0		For school Program minimum qualification of Trainer should be Graduate. Their teaching experience will be considered industry experience
Graduate	Agriculture / Horticulture / Botany/ Biotechnology/ Seed Technology	1	Seed Production and Processing	0		
Post Graduate	Agriculture/ Seed technology/ Genetics and Plant breeding/ Plant Biotechnology	0	Seed Production and Processing	0		

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role “ <b>Seed Analysis In-Charge</b> ”, mapped to QP: “AGR/Q7103, 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>Graduation</b>	B.Sc (Agriculture/ Agronomy/ Horticulture and related streams)	5	In Seed Technology/ Seed Testing & sampling and other related experience	0		Practical skills and knowledge required in seed testing & analysis
<b>Post-graduation</b>	M.Sc (Agriculture/ Agronomy/ Seed Science & Technology/ Genetics & Plant Breeding/ Horticulture and related streams)	2	In Seed Technology/ Seed Testing & sampling and other related experience	0		Practical skills and knowledge required in seed testing & analysis
<b>PhD</b>	PhD ( Agronomy/ Seed Science & Technology/ Genetics & Plant Breeding/ Horticulture and related streams)	1	In Seed Technology/ Seed Testing & sampling and other related experience	0		Practical skills and knowledge required in seed testing & analysis

Assessor Certification	
Domain Certification	Platform Certification
“Seed Analysis In-Charge”, “AGR/Q7103, 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 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.
- The theory, practical and viva assessments will be carried out on the same day. In case of more number of candidates, the number of assessors and venue facilitation be increased and facilitated

Assessment			
Assessment Type	Formative or Summative	Strategies	Examples
Theory	Summative	MCQ/Written exam	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks/Demonstration	Practical application /Demonstration /Application tasks
Viva	Summative	Questioning and Probing	Mock interviews on the usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling the job situation

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

## Assessment Quality Assurance framework

### Assessment Framework and Design:

Based on the Assessment Criteria, SSC in association with AAs will define the test structure for the given roles to cover the required skills and competencies. ASCI offers 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 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 standardization of the marking scheme.

### Type of Evidence and Evidence Gathering Protocol:

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

- Geo Tagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidence (photos and videos) to the assessor one day before the assessment. The list is mentioned below:
  - Signed Attendance sheet
  - Assessor feedback sheet
  - Candidate feedback sheet

- Assessment checklist for assessor
- Candidate Aadhar/ID card verification
- Pictures of the classroom, labs to check the availability of adequate equipment's and tool to conduct the training and assessment
- Pictures and videos of Assessment, training feedback and infrastructure.
- Apart from the Assessor, a Technical assistant 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 assessor and proctor is done on a timely basis to ensure that the quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

### ***Methods of Validation***

- 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 to job role-specific folders. These specific folders have Year wise and Month wise folders where all documents are saved in Batch specific folders. All Hard copies are filed and stored in the storeroom.

***Result Review & Recheck Mechanism –***

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

# References

## Glossary

Term	Description
<b>Declarative Knowledge</b>	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.
<b>Key Learning Outcome</b>	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).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module</b> . 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
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment