







# Model Curriculum

**QP Name: Plant Nursery Associate** 

QP Code: AGR/Q0807

Version: 4.0

**NSQF Level: 3** 

**Model Curriculum Version: 3.0** 

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







# **Table of Contents**

Training Parameters	3
Program Overview	4
Training Outcomes	4
Compulsory Modules	4
Module 1: Introduction to the role of a Nursery Worker	6
Module 2: The process of maintaining, harvesting and transplanting seedlings and flowers	7
Module 3: Propagation of plants through different methods	8
Module 4: Management of plant health and nursery operations	9
Module 5: Hygiene and cleanliness	10
Module 6: Safety and emergency procedures	11
Module 7: Employability Skills (30 hours)	12
Module 8: On-the-job Training	14
Annexure	15
Training Requirements	15
Assessor Requirements	16
Assessment Strategy	17
References	22
Glossary	22
Acronyms and Abbreviations	23







# **Training Parameters**

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Landscaping, Gardening & Urban Farming (Nursery Workers and Gardeners, Other)
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6113.9900
Minimum Educational Qualification and Experience	OR 8th grade pass with 3 years of relevant experience in Agriculture and allied sectors OR 5th grade pass with 6 years of relevant experience in Agriculture and allied sectors OR Previous NSQF level 2.5 with 1.5 year of relevant experience in Agriculture and allied sectors OR Previous NSQF level 2 with 3 year of relevant experience in Agriculture and allied sectors OR Previous NSQF level 2 with 3 year of relevant experience in Agriculture and allied sectors
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	30/05/2024
Next Review Date	30/05/2027
NSQC Approval Date	30/05/2024
QP Version	4.0
Model Curriculum Creation Date	30/05/2024
Model Curriculum Valid Up to Date	30/05/2027
Model Curriculum Version	3.0
Minimum Duration of the Course	270 Hours
Maximum Duration of the Course	270 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:

- Demonstrate the process of maintaining, harvesting and transplanting seedlings.
- Demonstrate the process of propagating the plants through different methods of propagation.
- Describe various requirements to ensure the healthy growth of plants and flowers in the nursery.
- Explain various practices regarding the maintenance of nursery infrastructure, tools and implements.
- Explain the importance of following inclusive practices for all genders and PwD at work.
- Demonstrate various practices to maintain personal hygiene, cleanliness and safety at work.

#### **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
AGR/N0820 Raise, maintain Transplant and harvest seedlings NOS Version- 2.0 NSQF Level- 3	15:00	45:00	0:00	0:00	60:00
Module 1: Introduction to the role of a Nursery Worker	05:00	0:00	0:00	0:00	05:00
Module 2: The process of maintaining, harvesting and transplanting seedlings and flowers	10:00	45:00	0:00	0:00	55:00
AGR/N0840 Propagate plants through different methods of propagation NOS Version- 1.0 NSQF Level- 3	15:00	45:00	0:00	0:00	60:00
Module 3: Propagation of plants through different methods	15:00	45:00	0:00	0:00	60:00







AGR/N0821 Assist in managing plant health and nursery operations NOS Version- 3.0 NSQF Level- 3	10:00	20:00	0:00	0:00	30:00
Module 4: Management of plant health and nursery operations	10:00	20:00	0:00	0:00	30:00
AGR/N9903 Maintain health and safety at the workplace NOS Version- 4.0 NSQF Level- 4	20:00	10:00	0:00	0:00	30:00
Module 5: Hygiene and cleanliness	4:00	4:00	0:00	0:00	8:00
Module 6: Safety and emergency procedures	16:00	06:00	0:00	0:00	22:00
DGT/VSQ/N0101 Employability Skills NOS Version-1.0 NSQF Level-2	30:00	00:00	0:00	0:00	30:00
Module 7: Employability Skills	30:00	00:00	0:00	0:00	30:00
Module 8: On-the-job Training	00:00	00:00	60:00	00:00	60:00
Total Duration	90:00	120:00	60:00	0:00	270:00







# **Module Details**

# Module 1: Introduction to the role of a Nursery Worker

Bridge Module, Mapped to AGR/N0820 v2.0

#### **Terminal Outcomes:**

• State the role and responsibilities of a Nursery Worker.

Duration: 5:00	Duration: 0:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Describe the size and scope of the agriculture industry and its sub- sectors.</li> </ul>	
<ul> <li>Discuss the role and responsibilities of a Nursery Worker.</li> </ul>	
<ul> <li>Discuss various employment opportunities for a Nursery Worker.</li> </ul>	
Classroom Aids	
Training kit - Trainer guide, presentations, whiteb	ooard, marker, projector, laptop, video films
10013, Equipment and Other Requirements	
NA	







# Module 2: The process of maintaining, harvesting and transplanting seedlings and flowers

#### Mapped to AGR/N0820 v2.0

#### **Terminal Outcomes:**

- Describe the process of growing flowers in a nursery.
- Demonstrate the process of maintaining, harvesting and transplanting seedlings.

Duration: 10:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>List various materials, tools, implements and Personal Protective Equipment (PPE) required in nursery operations.</li> <li>List different varieties of seasonal plants to grow from seeds.</li> <li>Describe the process of procuring, sorting and storing seeds.</li> <li>Describe the process of preparing the soil and fertilizer mixture, and poly bags/ containers/ germination bed for sowing seeds.</li> <li>Describe the process of sowing seeds and maintaining their healthy growth.</li> <li>Explain the importance of maintaining the recommended level of moisture and temperature to aid the germination of seeds.</li> <li>Describe the process of harvesting and transplanting seedlings.</li> <li>Describe the activities involved in harvesting and post-harvest</li> </ul>	<ul> <li>Demonstrate the use of relevant tools, implements and Personal Protective Equipment (PPE) in nursery operations.</li> <li>Demonstrate the process of preparing the soil and fertilizer mixture, poly bags/ containers/ germination bed for sowing the seeds.</li> <li>Show how to apply fertilizers and pesticides on seedlings.</li> <li>Demonstrate the process of preparing sunken/ level/ raised nursery bed for transplanting seedlings.</li> <li>Demonstrate the process of harvesting and transplanting seedlings.</li> <li>Demonstrate the process of harvesting and processing flowers.</li> <li>Prepare a sample record of seedlings raised, harvested and transplanted.</li> </ul>
processing of flowers.	

#### **Classroom Aids**

Training kit (Trainer guide, Presentations). Whiteboard, Marker, projector, laptop

#### **Tools, Equipment and Other Requirements**

Different types of seeds, bulbs, plant seedlings, cuttings, trowel, rake, spade, jute balls, perforated poly bags, shade net, pots, water cans, hand cutter, long cutter knapsack sprayers, baskets, seedling trays, cocopeat, ladders, wheelbarrow, axe, seedling trays, hoe, broom, shears, hose pipes, sprinklers, Tags, paint, signboards, bamboo sticks







### Module 3: Propagation of plants through different methods

#### Mapped to ARG/N0840 v1.0

#### **Terminal Outcomes:**

- Describe the process of propagating plants through the cutting, root division, layering and budding methods.
- Demonstrate the activities involved in propagating plants through a variety of propagation methods.

<ul> <li>List various tools and implements used in plant propagation methods.</li> <li>Practical – Key Learning Outcomes</li> <li>Demonstrate the use of various propagation tools and implements.</li> </ul>	Duration: 15:00	Duration: 45:00
used in plant propagation methods. propagation tools and implements.	Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Describe the process of propagating plants through a variety of propagation methods.</li> <li>Explain the advantages of different plant propagation methods and their suitability to a variety of plants.</li> <li>Explain the nutrition and disease management practices to be followed during the propagation of plants.</li> <li>Explain the use of different types of fertilizers and pesticides.</li> <li>Demonstrate the process of propagating plants through a variety of propagating plants through a variety of propagating methods such as cutting, root division, layering, budding, etc.</li> <li>Demonstrate the process of propagating plants through a variety of propagating plants through a variety of propagation methods such as cutting, root division, layering, budding, etc.</li> <li>Demonstrate the process of applying pesticides/ insecticides on plants using the appropriate PPE.</li> </ul>	<ul> <li>Describe the process of propagating plants through a variety of propagation methods.</li> <li>Explain the advantages of different plant propagation methods and their suitability to a variety of plants.</li> <li>Explain the nutrition and disease management practices to be followed during the propagation of plants.</li> <li>Explain the use of different types of fertilizers and pesticides.</li> </ul>	<ul> <li>propagation tools and implements.</li> <li>Demonstrate the process of propagating plants through a variety of propagation methods such as cutting, root division, layering, budding, etc.</li> <li>Demonstrate the process of applying pesticides/ insecticides on plants</li> </ul>

#### **Classroom Aids**

Training kit (Trainer guide, Presentations). Whiteboard, Marker, projector, laptop

#### **Tools, Equipment and Other Requirements**

Conduit pipes, drain boards, GC fabric, working drawings: irrigation layout, electric lines layout, concept drawing etc.







## Module 4: Management of plant health and nursery operations

#### Mapped to AGR/N0821 v3.0

#### **Terminal Outcomes:**

- Explain the nutrient requirements of different types of plants.
- Describe various practices to protect the plants from pests and disease.
- Explain the benefits of resource optimisation.
- Explain the benefits of following inclusive practices for all genders and Persons with Disabilities (PwD) at work.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Explain the nutrient requirements of varieties of plants during different stages of their growth.</li> <li>Explain the benefits of using different types of growth mediums and plant growth regulators.</li> <li>Explain the basic repair and maintenance needs of nursery tools, implements and infrastructure.</li> <li>Explain the importance of following the relevant preventive practices to protect the plants from pests and diseases.</li> <li>Discuss the benefits and methods of resource optimisation.</li> <li>State the criteria for segregating waste into different categories.</li> <li>Describe the process of recycling and disposing different types of waste.</li> <li>Discuss the importance of following inclusive practices for all genders and PwD at work.</li> </ul>	<ul> <li>Demonstrate the process of trimming and pruning different types of plants.</li> <li>Show how to use different types of growth regulators on plants.</li> <li>Demonstrate the process of carrying out basic repair and maintenance of the nursery infrastructure, tools and implements.</li> <li>Demonstrate the process of examining the plants to identify pests and disease.</li> <li>Prepare a sample record regarding the use of growth regulators, fertilizers and pesticides.</li> <li>Show how to use water, electricity and other resources optimally.</li> <li>Demonstrate the process of recycling and disposing different types of waste.</li> <li>Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.</li> </ul>
Classroum Alds	

#### C

Training kit (Trainer guide, Presentations)

#### **Tools, Equipment and Other Requirements**

Shovel, spade, trowel, rake, broom, hose pipe, sprinklers, pesticides, sprayers, long cutter, shears, cutters, axe, sickle, weeder, a pit for dry leaves, jute and PVC bags







## Module 5: Hygiene and cleanliness

#### Mapped to NOS AGR/N9903 v4.0

#### **Terminal Outcomes:**

- Discuss how to adhere to personal hygiene practices.
- Demonstrate ways to ensure cleanliness around the workplace.

Duration: 04:00	Duration: 04:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Explain the requirements of personal health, hygiene and fitness at work.</li> <li>Describe common health-related guidelines laid down by the organizations/ Government at the workplace.</li> </ul>	<ul> <li>Demonstrate personal hygiene practices to be followed at the workplace.</li> <li>Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs.</li> </ul>
<ul> <li>Explain the importance of good housekeeping at the workplace.</li> </ul>	<ul> <li>Demonstrate the steps to follow to put on and take off a mask safely.</li> </ul>
Explain the importance of informing the designated authority on personal	<ul> <li>Show how to sanitize and disinfect one's work area regularly.</li> </ul>
health issues related to injuries and infectious diseases.	Demonstrate adherence to the workplace sanitization norms.
	Show how to ensure cleanliness of the work area.

#### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.

### **Tools, Equipment and Other Requirements**

Personal Protective Equipment, cleaning equipment and materials, sanitizer, soap, mask







### Module 6: Safety and emergency procedures

## Mapped to NOS AGR/N9903 v4.0

#### **Terminal Outcomes:**

- Describe how to adhere to safety guidelines.
- Show how to administer appropriate emergency procedures.

Duration: 16:00	Duration: 06:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>List the PPE required at the workplace.</li> <li>Describe the commonly reported hazards at the workplace.</li> <li>Describe the hazards caused due to chemicals/pesticides/fumigants.</li> <li>Describe the basic safety checks to be done before the operation of any equipment/machinery.</li> <li>Describe the common first aid procedures to be followed in case of emergencies.</li> <li>State measures that can be taken to prevent accidents and damage s at the workplace.</li> <li>Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures.</li> <li>State common health and safety guidelines to be followed at the workplace.</li> </ul>	<ul> <li>Check various areas of the workplace for leakages, water-logging, pests, fire, etc.</li> <li>Demonstrate how to safely use the PPE and implements as applicable to the workplace.</li> <li>Display the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits, etc.</li> <li>Sanitize the tools, equipment and machinery properly.</li> <li>Demonstrate the safe disposal of waste.</li> <li>Demonstrate procedures for dealing with accidents, fires and emergencies.</li> <li>Demonstrate emergency procedures to the given workplace requirements.</li> <li>Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements.</li> <li>Demonstrate the administration of first aid.</li> <li>Prepare a list of relevant hotline/emergency numbers.</li> </ul>
Classroom Aids:	

#### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.

#### **Tools, Equipment and Other Requirements**

Personal protective equipment, first aid kit, equipment used in medical emergencies.







#### Module 7: Employability Skills (30 hours)

#### Mapped to NOS DGT/VSQ/N0102 v1.0

**Duration: 30:00** 

#### **Key Learning Outcomes**

#### **Introduction to Employability Skills Duration: 1 Hour**

After completing this programme, participants will be able to:

1. Discuss the importance of Employability Skills in meeting the job requirements

#### **Constitutional values - Citizenship Duration: 1 Hour**

- 2. Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.
- 3. Show how to practice different environmentally sustainable practices

#### **Becoming a Professional in the 21st Century Duration: 1 Hours**

- 4. Discuss 21st century skills.
- 5. Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.

#### **Basic English Skills Duration: 2 Hours**

6. Use appropriate basic English sentences/phrases while speaking

#### **Communication Skills Duration: 4 Hour**

- 7. Demonstrate how to communicate in a well -mannered way with others.
- 8. Demonstrate working with others in a team

#### **Diversity & Inclusion Duration: 1 Hour**

- 9. Show how to conduct oneself appropriately with all genders and PwD
- 10. Discuss the significance of reporting sexual harassment issues in time

#### **Financial and Legal Literacy Duration: 4 Hours**

- 11. Discuss the significance of using financial products and services safely and securely.
- 12. Explain the importance of managing expenses, income, and savings.
- 13. Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws

#### **Essential Digital Skills Duration: 3 Hours**

- 14. Show how to operate digital devices and use the associated applications and features, safely and securely
- 15. Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely

#### **Entrepreneurship Duration: 7 Hours**

16. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges

#### **Customer Service Duration: 4 Hours**

- 17. Differentiate between types of customers
- 18. Explain the significance of identifying customer needs and addressing them
- 19. Discuss the significance of maintaining hygiene and dressing appropriately

#### **Getting ready for apprenticeship & Jobs Duration: 2 Hours**







- 20. Create a biodata
- 21. Use various sources to search and apply for jobs
- 22. Discuss the significance of dressing up neatly and maintaining hygiene for an interview
- 23. Discuss how to search and register for apprenticeship opportunities







#### **Module 8: On-the-job Training**

#### Mapped to AGR/Q0807 v3.0

**Duration: 60:00** 

#### **Key Learning Outcomes**

- 1. Prepare the soil and fertilizer mixture, poly bags/ containers/ germination bed for sowing the seeds
- 2. Prepare sunken/ level/ raised nursery bed for transplanting seedlings
- 3. apply fertilizers and pesticides on seedlings
- 4. harvest and transplant seedlings.
- 5. use various propagation tools and implements in the nursery operations
- 6. propagate plants through a variety of propagation methods such as cutting, root division, layering, budding, etc.
- 7. use different types of growth regulators on plants
- 8. carry out basic repair and maintenance of the nursery infrastructure, tools and implements
- 9. examine the plants to identify pests `and disease.
- 10. apply pesticides/insecticides on plants using the appropriate PPE







# **Annexure**

**Training Requirements** 

Training Requirements  Trainer Prerequisites								
Minimum Educational	Specialization	Releva Experi	ant Industri ience	ry Training Experience			Remarks	
Qualification		Years	Specialization		Years	Specialization		
10th class	class 10th	7	Nursery Management		0		Nursery Worker with 7 Years' experience with Government/civic authority/registered nursery/corporates	
12th Class	class 12th	4	4 Nursery Management		0		Ex-Service-Man including Ex-Paramilitary personnel: Minimum Qualification is 10+2 with an Honourable Discharge / Pension. SSC would consider a relaxation/waiver of sector-specific experience on a caseto-case basis.	
Diploma	Diploma in Agriculture	3	Nursery Management		0			
Graduate	Graduate	2	Nursery Management		0		For school Program minimum qualification of Trainer should be Graduate. Their Teaching experience will be considered industry experience	
Graduate	Graduate (Agriculture / Horticulture/ Forestry)	0.5	Nursery Management		0			
			Trainer Ce	rtific	ation			
	Domain Certificat	ion				Platform Ce	ertification	
Certified for Job Role " <b>Plant Nursery Associate</b> ", mappedto QP: "AGR/Q0807, v4.0", Minimum accepted score is 80%				Job R Quali	ole: "Tr fication	ainer (Vet and Pack: "MEP/C	ainer is certified for the I Skills)", mapped to the Q2601, v2.0". Minimum PSC guidelines is 80%.	







## **Assessor Requirements**

Assessor Prerequisites							
Minimum Educational	Specialization	Relevant Indu Experience		vant Industry erience		Training/Assessment Experience	
Qualification		Years	Years Specialization		Years	Specialization	
Graduation	Agriculture/ Botany/ Forestry/ Horticulture and related streams	2	Horticulture /Forestry/Bo tany and related experiences		0		Practical skills and knowledge required in Nursery operations
Post- Graduatio n	Agriculture/ Botany/ Forestry/ Horticulture and related streams	1	Horticulture /Forestry/Bo tany and related experiences		0		Practical skills and knowledge required in Nursery operations
PhD	Agriculture/ Botany/ Forestry/ Horticulture and related streams	1	Horticulture /Forestry/Bo tany and related experiences		0		Practical skills and knowledge required in Nursery operations
		Asse	ssor C	ertificatio	on		
	<b>Domain Certification</b>				Plat	form Certification	on
Certified for Job Role " <b>Plant Nursery Associate</b> ", "AGR/Q0807, v4.0", Minimum accepted score is 80%  Certified for the Job Role: "Assessor (Vet and Skills)", mappedto 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 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. <u>Multiple Choice Questions</u>: To assess basic knowledge (Objective/Subjective)
- 2. <u>Viva:</u> To assess awareness on processes (Oral and/or written questioning)
- 3. <u>Practical:</u> 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.

While it is important that an individual has adequate knowledge and skills to perform a specific task, weightage for different aspects of 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 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 assessment location.

In remote locations/villages, assessments get delivered through tablets without the requirement of the 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 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 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 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 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 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 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 which will maintain standardization of 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
  - o 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
  - o 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 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.
- <u>Video Calls</u>: 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
- <u>Aadhar verification</u> of candidates







- <u>Evening Check (Post Assessment)</u>: Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.
- <u>TP Calling</u>: 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 assessment on part of AA/SSC team. If calls are not connected, email is sent to TP SPOC for taking their confirmation
- <u>Video and Picture Evidence:</u> 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.
- <u>Surprise Visit:</u> 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.
- <u>Geo Tagging</u>: On the day of the assessment, each technical SPOC is required to login into our internal app which is Geotagged. Any deviation with centre address needs to be highlighted to the assessment team on a 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 form the basis of the results and encrypted files generated to avoid data manipulation. All responses captured and stored in System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.
- Maker Checker concept: 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 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 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
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests
Key Learning	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).
ОЈТ (М)	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
Training Outcome	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	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
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment