



Model Curriculum

QP Name: Essential Oil Extractor

QP Code: AGR/Q0902

Version: 2.0

NSQF Level: 3

Model Curriculum Version: 1.0

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	Agriculture Crop Production
Occupation	Medicinal and Aromatic Plants cultivation
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7514
Minimum Educational Qualification and Experience	<p>8th grade pass with 2 years of relevant experience</p> <p>OR</p> <p>Grade 8 pass and pursuing continuous schooling in regular school with vocational subject</p> <p>OR</p> <p>5th grade pass with 5 years of relevant experience</p> <p>OR</p> <p>Previous relevant qualification of NSQF Level 2 with 1 year of relevant experience</p> <p>OR</p> <p>Previous relevant qualification of NSQF Level 2.5 with 6 months of relevant experience</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	29/03/2023
Next Review Date	29/03/2026
NSQC Approval Date	29/03/2023
QP Version	2.0
Model Curriculum Creation Date	29/03/2023
Model Curriculum Valid Up to Date	29/03/2026
Model Curriculum Version	1.0
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:

- Elucidate ways to collect the appropriate MAPs for extracting essential oils.
- Describe the process of extracting essential oils from the MAPs.
- Explain the process of assisting in marketing the essential oils and maintaining records.
- Demonstrate various practices to ensure health 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
Bridge Module	05:00	00:00	0:00	00:00	05:00
Module 1: Introduction to the role of an Essential Oil Extractor	05:00	00:00	0:00	00:00	05:00
AGR/N0905: Collect the appropriate MAPs for extracting essential oils NOS Version- 2.0 NSQF Level- 3	25:00	30:00	0:00	00:00	55:00
Module 2: Process of collecting the appropriate MAPs for extracting essential oils	25:00	30:00	0:00	00:00	55:00
AGR/N0906: Extract essential oils from the MAPs NOS Version- 2.0 NSQF Level- 3	30:00	30:00	0:00	00:00	60:00
Module 3: Process of extracting essential oils from the MAPs	30:00	30:00	0:00	00:00	60:00
AGR/N0907: Assist in marketing the essential oils and maintaining records NOS Version- 2.0 NSQF Level- 3	25:00	35:00	0:00	00:00	60:00

Module 4: Process of assisting in marketing the essential oils and maintaining records	25:00	35:00	0:00	00:00	60:00
AGR/N9903 Maintain health and safety at the workplace NOS Version- 3.0 NSQF Level- 4	05:00	25:00	0:00	00:00	30:00
Module 5: Hygiene and cleanliness	02:00	10:00	0:00	00:00	12:00
Module 6: Safety and emergency procedures	03:00	15:00	0:00	00:00	18:00
DGT/VSQ/N0101: Employability Skills (30 Hours) NOS Version- 1.0 NSQF Level- 2	30:00	00:00	0:00	00:00	30:00
Module 7: Employability Skills	30:00	00:00	0:00	00:00	30:00
Total Duration	120:00	120:00	0:00	00:00	240:00
OJT: 30 Hours					

Module Details

Module 1: Introduction to the role of an Essential Oil Extractor

Bridge Module

Terminal Outcomes:

- Discuss the job role of an Essential Oil Extractor.

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 Essential Oil Extractor. • Identify various employment opportunities for an Essential Oil Extractor. 	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of collecting the appropriate MAPs for extracting essential oils

Mapped to AGR/N0905 v2.0

Terminal Outcomes:

- Explain the process of preparing to collect the MAPs.
- Elucidate ways to collect, sort and grade the MAPs.
- Elucidate ways to clean and dry the MAPs.
- Elucidate ways to store the MAPs.

Duration: 25:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the basics of regulations applicable to the harvesting and commercial use of MAPs. • Explain different MAP plant parts, e.g. root, leaves, stem, bark, seeds, flower, floral parts, exudates, gum and resin, used for different purposes. • Explain the importance of selecting a site not exposed to insects, chemicals, toxic gases, sewage, etc., for harvesting the MAPs. • State the appropriate time for collecting MAPs and the weather to be avoided for collecting MAPs, e.g. rain, and high humidity. • Elucidate the importance of harvesting only the required plant parts and harvesting only the recommended quantity to ensure the sustainability of MAPs. • Explain the importance of collecting pest and disease-free MAPs. • Discuss the appropriate practices to be followed for the conservation of biodiversity in the collection of MAPs. • Describe the relevant hazards concerned with the collection of MAPs and how to deal with them. • Explain the importance of identifying through coordination with the relevant authorities and avoiding the collection of MAPs from the 	<ul style="list-style-type: none"> • Demonstrate how to sterilize the relevant tools and equipment before use. • Demonstrate the use of the approved harvesting method and relevant tools and equipment to harvest the MAPs according to the variety and as per the specific use/ industry requirements. • Show how to apply the appropriate treatment to the incisions on plants • Show how to record the relevant data concerning the harvested MAPs, such as the genus of the plant, local name, geographical origin, endangered or not, etc. • Demonstrate how to sort out the damaged and deceased MAPs. • Demonstrate how to grade the MAPs on the relevant parameters such as size, weight, quality, etc. • Show how to clean the MAPs following the selected method. • Demonstrate the process of applying the necessary treatment in the storage area to protect the MAPs from pests and diseases.

<p>protected areas.</p> <ul style="list-style-type: none"> • Explain the appropriate practices to be followed to protect the quality of collected MAPs, e.g. prevent their contamination and deterioration. • Explain how to identify toxic weeds and the process of their safe handling. • Explain the importance of selecting appropriate varieties of MAPs for collection, ensuring they are not endangered or protected. • Explain the criteria for selecting an appropriate site for the collection of MAPs. • Describe the process of planning the harvesting of MAPs according to the season. • Describe the appropriate methods for harvesting MAPs according to the variety and the specific use/ industry requirements. • Explain how to isolate and handle poisonous plants and weeds. • List the appropriate conditions required for storing the MAPs. • Explain the use of appropriate accessories for storing MAPs, such as racks, crates, pallets, etc. • State the recommended practices to be followed in the storage area to minimize the loss of active ingredients and oils in the MAPs. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Steaming Basket, Medicinal or Aromatic plants, Steel Container (Deg), Furnace/Boiler/Stove, Helmet, Respiratory Masks, Installed Video camera with high resolution and recording facility, Fire Extinguisher, Rubber gloves, Receiver Container (Bhapka), cooling water tank (Gacchi), Leather bottle (Kuppi), Bamboo condenser, First aid box, Safety Shoes</p>	

Module 3: Process of extracting essential oils from the MAPs

Mapped to ARG/N0906 v2.0

Terminal Outcomes:

- Explain the process of preparing for essential oil extraction.
- Elucidate ways to extract the essential oils.
- Describe the process of performing the post-extraction activities.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the process of identifying and removing unsuitable MAPs and impurities before the extraction of essential oils. • List the appropriate precautions to be taken during the essential oil extraction. • Explain how to deal with hazards relevant to essential oil extraction. • State the recommended temperature and pressure required during the oil extraction. • Describe the appropriate methods to be followed to separate the traces of water in the extracted oil. • Explain the applicable quality parameters to evaluate the quality of extracted essential oil, e.g. colour, odour, density, solubility, etc. • Explain the use of appropriate packing material for packing the extracted essential oils and the applicable labelling requirements. • State the recommended temperature and humidity for storing the packed essential oils. 	<ul style="list-style-type: none"> • Demonstrate how to remove unsuitable MAPs and impurities. • Demonstrate the process of carrying out appropriate repair and maintenance of the tools and equipment, as appropriate, and coordinate with the manufacturer to resolve complex issues. • Show how to load the plant material into the extraction equipment in the recommended quantity. • Demonstrate the process of carrying out essential oil extraction following the appropriate method, e.g. hydro distillation, steam distillation, and hydro and steam distillation. • Show how to identify the traces of water in the extracted oil and separate water using anhydrous chemical chloride/ sulphate, filter paper, etc. • Demonstrate the process of performing cleaning and maintenance of the oil extraction equipment after use. • Demonstrate the use of the appropriate PPE during the oil extraction activities. • Demonstrate the process of carrying out appropriate documentation concerning the oil extraction activities.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	

Steaming Basket, Medicinal or Aromatic plants, Steel Container (Deg), Furnace/Boiler/Stove, Helmet, Respiratory Masks, Installed Video camera with high resolution and recording facility, Fire Extinguisher, Rubber gloves, Receiver Container (Bhapka), cooling water tank (Gacchi), Leather bottle (Kuppi), Bamboo condenser, First aid box, Safety Shoes

Module 4: Process of assisting in marketing the essential oils and maintaining records

Mapped to AGR/N0907 v2.0

Terminal Outcomes:

- Explain the process of assisting in marketing the essential oils.
- Explain the process of assisting in maintaining records.

Duration: 25:00	Duration: 35:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • State the appropriate markets and buyers for the essential oils, e.g. eMandi, procurement agencies, local traders, co-operatives, exporters, etc. • Describe the process of costing the considering the applicable costs. • Discuss the regulations applicable to the costing of essential oils. • Elucidate the importance and process of maintaining the backup of relevant records to protect against their accidental loss. • Explain the importance of reviewing the records periodically. 	<ul style="list-style-type: none"> • Demonstrate how to load the packed essential oils in the transport vehicle appropriately to enable their safe transportation to the relevant buyers/ markets. • Demonstrate how to process payments using the appropriate payment methods. • Demonstrate the process of maintaining the relevant manual and electronic records using the physical registers and the relevant computer application. • Demonstrate the process of maintaining the backup of relevant records to protect against their accidental loss. • Demonstrate the process of maintaining reviewing the records to ensure they are accurate and up-to-date.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Steaming Basket, Medicinal or Aromatic plants, Steel Container (Deg), Furnace/Boiler/Stove, Helmet, Respiratory Masks, Installed Video camera with high resolution and recording facility, Fire Extinguisher, Rubber gloves, Receiver Container (Bhapka), cooling water tank (Gacchi), Leather bottle (Kuppi), Bamboo condenser, First aid box, Safety Shoes	

Module 5: Hygiene and cleanliness

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

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

Duration: 02:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the requirements of personal health, hygiene and fitness at work. • Describe common health-related guidelines laid down by the organizations/ Government at the workplace • Explain the importance of good housekeeping at the workplace. • Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases. 	<ul style="list-style-type: none"> • Demonstrate personal hygiene practices to be followed at the workplace. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Demonstrate the steps to follow to put on and take off a mask safely. • Show how to sanitize and disinfect one's work area regularly. • Demonstrate adherence to the workplace sanitization norms. • Show how to ensure the 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 v3.0

Terminal Outcomes:

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

Duration: 03:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the Personal Protective Equipment (PPE) required at the workplace. • Describe the commonly reported hazards at the workplace. • Describe the hazards caused due to chemicals/pesticides/fumigants. • Describe the basic safety checks to be done before the operation of any equipment/machinery. • Describe the common first aid procedures to be followed in case of emergencies. • State measures that can be taken to prevent accidents and damage s at the workplace. • Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures • State common health and safety guidelines to be followed at the workplace. 	<ul style="list-style-type: none"> • Check various areas of the workplace for leakages, water-logging, pests, fire, etc. • Demonstrate how to safely use the PPE and implement it as applicable to the workplace. • Display the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits, etc. • Sanitize the tools, equipment and machinery properly. • Demonstrate the safe disposal of waste. • Demonstrate procedures for dealing with accidents, fires and emergencies. • Demonstrate emergency procedures to the given workplace requirements. • Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements. • Demonstrate the administration of first aid. • Prepare a list of relevant hotline/emergency numbers
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

Mapped to NOS DGT/VSQ/N0101 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

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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 Essential Oil Extractor

Mandatory Duration: 30:00	Recommended Duration: 00:00
Location: On-Site	
<p>Terminal Outcomes</p> <ul style="list-style-type: none"> • Explain different MAP plant parts, e.g. root, leaves, stem, bark, seeds, flower, floral parts, exudates, gum and resin, used for different purposes. • Use the approved harvesting method and relevant tools and equipment to harvest the MAPs according to the variety. • Record the relevant data concerning the harvested MAPs, such as the genus of the plant, local name, geographical origin, endangered or not, etc. • Apply the necessary treatment in the storage area to protect the MAPs from pests and diseases. • Load the plant material into the extraction equipment in the recommended quantity. • Carry out essential oil extraction following the appropriate method, e.g. hydro distillation, steam distillation, and hydro and steam distillation. • Load the packed essential oils in the transport vehicle appropriately to enable their safe transportation to the relevant buyers/ markets. • Maintain the relevant manual and electronic records using the physical registers and the relevant computer application. 	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
12th Class	Class 12 th (with Government Certification in Essential Oil Extraction)	4	Medicinal and Aromatic Plant Cultivation	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 case-to-case basis.
Diploma	Diploma in Agriculture/Horticulture	3	Medicinal and Aromatic Plant Cultivation	0		
Graduate	Graduate	2	Medicinal and Aromatic Plant Cultivation	0		For the school Program minimum qualification of the Trainer should be Graduate. Their Teaching experience will be considered industry experience
Graduate	Graduate (Agriculture / Horticulture/ Forestry)	0		0		
Post Graduate	M Sc (Agriculture / Horticulture / Botany/ Forestry/ Chemistry/ Biochemistry/ Biotechnology)	0		0		

Trainer Certification	
Domain Certification	Platform Certification
<p>Certified for Job Role “Essential Oil Extractor”, mapped to QP: “AGR/Q0902, v2.0”, Minimum accepted score is 80%</p>	<p>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%.</p>

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduation	B.Sc (Agriculture/ Horticulture/ Botany/ Chemistry or related streams)	5	Essential oil extraction and related experience	0		Practical skills and knowledge required in essential oil extraction processes
Post-graduation	M.Sc (Agriculture/ Horticulture/ Botany/ Chemistry or related streams)	2	Essential oil extraction and related experience	0		Practical skills and knowledge required in essential oil extraction processes
PhD	Agriculture/ Horticulture/ Botany/ Chemistry or related streams	1	Essential oil extraction and related experience	0		Practical skills and knowledge required in essential oil extraction processes

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role “ Essential Oil Extractor ”, mapped to QP: “AGR/Q0902, v2.0”, 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.
- 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

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 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 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 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 candidate 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	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	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