



Model Curriculum

QP Name: Vermicompost Producer

QP Code: AGR/Q1203

QP Version: 4.0

NSQF Level: 3

Model Curriculum Version: 3.0

Agriculture Skill Council of India || Unit No. 101, First Floor, Greenwoods Plaza,
Block 'B' Greenwoods City, Sector 45, Gurugram - 122009

Table of Contents

Contents

TrainingParameters	3
ProgramOverview.....	4
Training Outcomes.....	4
Compulsory Modules	4
Module 1: Introduction to the role of a Vermicompost Producer	6
Module 2: Identification and selection of appropriate site for preparation of vermicompost bed	7
Module 3: Inoculation of earthworms and management of vermicomposting process	9
Module 4: Harvesting of vermicompost.....	11
Module 5: Basic entrepreneurial activities for small enterprise	13
Module 6: Hygiene and cleanliness.....	16
Module 7: Safety and emergency procedures	17
Module 8: Employability Skills (60 hours)	18
Annexure	21
Trainer Requirements	21
Assessor Requirements.....	22
Assessment Strategy.....	23
References.....	28
Glossary	28
Acronyms and Abbreviations	29

Training Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Farm Management
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6111.9900
Minimum Educational Qualification and Experience	10 th or equivalent OR 8 th class pass with 3 years of relevant experience in agriculture and allied sectors OR Previous NSQF Level 2.5 with 1.5 years of relevant experience in agriculture and allied sectors OR Previous NSQF Level 2 with 3 years of relevant experience in agriculture and allied sectors
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	18-02-2025
Next Review Date	18-02-2028
NSQC Approval Date	18-02-2025
QP Version	4.0
Model Curriculum Creation Date	18-02-2025
Model Curriculum Valid Up to Date	18-02-2028
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:
- Identify and arrange resources/ inputs for vermicompost unit: correct species of earthworm, site location for vermibed etc.
- Undertake good quality vermicompost production using appropriate techniques: preparation of vermibed, ensure proper environmental conditions, control predators, harvest vermicompost, vermiwash and earthworms
- Undertake basic entrepreneurial activities for small vermicompost unit: arrangement of finance, pooling of resources, market linkages etc.
- Practice health and safety at the work place: Well versed with health and safety measures in terms of personal as well as others' safety

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/N1212: Identify appropriate site and prepare bed for vermicomposting NOS Version-3.0 NSQF Level- 3	15:00	15:00	0:00	0:00	25:00
Module 1: Introduction to the role of a Vermicompost Producer	05:00	00:00	0:00	0:00	05:00
Module 2: Identification and selection of appropriate site for preparation of vermicompost bed	10:00	15:00	0:00	0:00	25:00
AGR/N1213: Inoculate earthworms in prepared unit and manage the vermicomposting process NOS Version-3.0 NSQF Level- 3	20:00	40:00	0:00	0:00	60:00
Module 3: Inoculation of	20:00	40:00	0:00	0:00	60:00

earthworms and management of vermicomposting process					
AGR/N1214: Identify maturity of vermicompost and harvest using approved procedures NOS Version-3.0 NSQF Level- 3	20:00	40:00	0:00	0:00	60:00
Module 4: Harvesting of vermicompost	20:00	40:00	0:00	0:00	60:00
AGR/N9908: Undertake basic entrepreneurial activities for small enterprise NOS Version-3.0 NSQF Level- 4	20:00	10:00	0:00	0:00	30:00
Module 5: Basic entrepreneurial activities for small enterprise	20:00	10:00	0:00	0:00	30:00
AGR/N9903 Maintain health and safety at the workplace NOS Version-4.0 NSQF Level-4	15:00	15:00	0:00	0:00	30:00
Module 6: Hygiene and cleanliness	05:00	05:00	0:00	0:00	10:00
Module 7: Safety and emergency procedures	10:00	10:00	0:00	0:00	20:00
DGT/VSQ/N0102 Employability Skills (60 Hours) NOS Version-1.0 NSQF Level-3	60:00	0:00	0:00	0:00	60:00
Module 8: Employability Skills (60Hrs)	60:00	0:00	0:00	0:00	60:00
Total Duration	150:00	120:00	0:00	0:00	270:00

Module Details

Module 1: Introduction to the role of a Vermicompost Producer

Mapped to NOS AGR/N1212 v3.0

Terminal Outcomes:

- Discuss the role and responsibilities of a Vermicompost Producer
- Explain benefits of vermicompost

Duration: 05:00	Duration: 00:00
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 where vermicost is used • Explain the scope and importance of organic farming in India and market demand for vermicompost • Explain the roles and responsibilities of a Vermicompost Producer and their career progression • Discuss agriculture/agro-industrial organic wastes used for vermicomposting • Discuss about type of earthworm used for vermicomposting and their multiplication methods • Discuss terms related to vermicomposting like vermiculture and vermitechnology • Explain occupational health & safety requirement relevant to work 	
Classroom Aids:	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 2: Identification and selection of appropriate site for preparation of vermicompost bed

Mapped to NOS AGR/N1212 v3.0

Terminal Outcomes:

- Identification of appropriate site for vermicompost bed preparation
- Construction of vermicompost bed

Duration: 10:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss requirements for vermicomposting as per standard like-Basic raw material source and their procurement, Selection of suitable earthworm, Starter, Site selection, containers for vermicompost production, thatched roof/vermished etc. • List various factors affecting site selection for vercomposting • Explain different types of vermicomposting methods and how to select and apply based on factors like availability of land; agro-climatic condition; budget; type of soil; availability of water, labour etc. • Describe the tools and materials used in making vermicompost unit • Discuss various types of vermibeds along with their specifications and their preparation techniques • List different types of organic wastes obtained from various sources and their uses in vermicompost preparation • List different types of materials used to make vermibeds • Explain how to identify reliable source of appropriate type of organic waste for getting continuous supply • Explain benefits of vermicompost and vermishash in enhancing the soil properties • Explain relevant legislation, standards, policies, and procedures 	<ul style="list-style-type: none"> • Show key consideration while identifying appropriate site for construction of Vermicompost unit as per approved procedures • Demonstrate construction and preparation of vermicompost unit and vermibed as per the specifications • Identify the source of appropriate type of organic wastes • Use various vermicomposting beds like plastic beds, HDPE vermi beds, permanent structures as per the requirement • Apply proper coverage and appropriate moisture level • Provide correct, safe and accurate instructions to workers for any construction work and follow the same where contributing to construction • Comply with the occupational health and safety requirements relevant to work • identify reliable source(s) to ensure continuous supply of food material/organic waste required as feeds for vermes/earthworm • Segregate and dispose waste as per SOP • Demonstrate the use of PPE and safety equipment • Demonstrate various practices to optimise the usage of various resources such as water and

<p>at work</p> <ul style="list-style-type: none"> • Explain the importance of health and safety requirements at workplace • Explain importance of maintaining correct proportion of substrates and time required for decomposition in a composting unit. • Discuss about segregating waste in to categories & management • Explain the importance of proper aeration and drainage 	<p>waste appropriately as per SOP.</p>
Classroom Aids:	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Gunny Bag, Plastic Sheet, Shovels, Spades, Crowbars, Iron Baskets, Dung Fork, Buckets, Bamboo Baskets, Trowel, Plumbing and Fitting Tools, Power Operated Shredder, Sieving Machine with Wire Mesh Sieves, Culture Trays (Plastic), Wheel Barrows, Water Pumps with Pipe/ Dripper	

Module 3: Inoculation of earthworms and management of vermicomposting process

Mapped to NOS AGR/N1213 v3.0

Terminal Outcomes:

- Demonstrate process of inoculation of appropriate species of earthworms in vermicompost pit
- Explain role of earthworm in vermicomposting
- Explain preparation of feed and the management of vermicomposting unit
- Show various control measures for predator attacks

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List and discuss different type of earthworms which are used for vermicomposting and their procurement from reliable sources in appropriate conditions • Explain morphology and anatomy of earthworm and identification of suitable variety of earthworm by their characteristics for vermicomposting • Explain favourable conditions for earth worm culture in the composting material • List the species of earthworms yielding high quality Vermicompost • List earthworm species wise optimal time required for feeding on decomposed materials for vermicomposting • Describe method of preparation ,collection and storage of vermiwash and their use • Discuss Nutrient content of Vermicompost and vermiwash • Explain application of vermicompost for different crops and advantages of vermicompost over other kinds of composts • Explain soil health improvement and crop productivity enhancement by application of vermicompost and vermiwash • Discuss techniques of earthworm inoculations, feed management and watering methods • Explain characteristics and quality parameters of various organic wastes used in 	<ul style="list-style-type: none"> • Demonstrate method of determination and computation of qualitative and quantitative requirements and the cost of earthworm for vermicomposting • Demonstrate Identification of correct species of earthworm and maintaining the conducive environment for their growth and carrying out composting • Show appropriateness of decomposition state of organic waste for introducing earthworm • Demonstrate process of inoculation of earthworm and maintaining optimal conditions as per standard • Show necessary pre-requisites and key consideration before inoculation of earthworm • Demonstrate proper methods of covering Vermicompost heap by appropriate materials and suitable measures to protect the vermicomposting unit against adverse weather conditions • Demonstrate correct methods of raw organic materials collection, maintenance, drying and storage • Show calculation of correct ratio of raw materials for vermicomposting requirements

<p>the vermicompost</p> <ul style="list-style-type: none"> • List the range of tools and materials used in inoculation of earthworms and management of feeds and protection from preys • Explain importance of maintaining optimum condition in vermicompost unit/heap • List the Equipments to monitor the aeration, temperature and moisture in the site • Discuss control measures for the different types of predators that prey on earthworms • Discuss appropriate pest control management in Vermicompost unit • Explain relevant legislation, standards, policies, and procedures at work • Explain the importance of health and safety requirements during the work process • Explain about “Sour Crop” and its management Practices • Explain how to monitor and adjust the feedstock quality and quantity 	<ul style="list-style-type: none"> • Prepare feed and manage & maintain vermicomposting unit optimally • Show how does earthworm facilitate vermicomposting • Demonstrate methods of maintaining moisture and aeration in the vermibed • Demonstrate various measures to control predator and pest attacks and methods of applications of permissible and appropriate pesticides as per standard • Demonstrate harvesting of vermiwash on time • Demonstrate how to maintain temperature, humidity and pH levels
Classroom Aids:	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Earthworms, Plastic Sheet, Shovels, Spades, Crowbars, Iron Baskets, Dung Fork, Buckets, Bamboo Baskets, Trowel, Power Operated Shredder, Sieving Machine with Wire Mesh Sieves, Culture Trays (Plastic), Water Pumps with Pipe/ Dripper	

Module 4: Harvesting of vermicompost

Mapped to NOS AGR/N1214 v3.0

Terminal Outcomes:

- Identify the harvesting stage of vermicompost
- Harvest the vermicompost with suitable method

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List range of tools and materials used in harvesting of vermicompost and earthworms • Explain different techniques used to harvest vermicompost based on the type of composting method used • Discuss methods of earthworm harvesting • Discuss phases of vermicomposting and necessary precautions to be taken during these phases • Discuss commonly faced problem in vermicomposting • Explain procedure of collection and storing and packing of vermicompost • Explain procedures to process and pack vermicompost in appropriate materials • Explain the quality parameter of Vermicompost pot harvest • Explain the feed requirements of the earthworms to continue compost cycle after harvesting • Discuss principle of Vermiwash preparation and their method of application • Explain relevant legislation, standards, policies, and procedures at work • Explain the process to ensure decomposition of organic matter 	<ul style="list-style-type: none"> • Demonstrate how to assess the maturity of vermicompost and harvesting • Show harvesting of mature vermicompost at appropriate stage using appropriate methods viz. tub method, container etc. • Demonstrate how to collect and store the vermicompost in a shady place • Show how to harvest earthworms by appropriate technique- trapping method, sieving method, manual method, self-harvesting method etc. • Show segregation of the vermiculture collected into cocoons, juveniles, adults etc. • Collect worms in containers, weigh, sort, grade, transfer in ready bed or prepare for sale • Recycle the process by refilling the bed with required materials in appropriate quantity • Demonstrate packing of the compost in bags or containers made of suitable materials • Demonstrate pest control practices to be followed during storage • Demonstrate how to test the nutrient profile of the compost

<ul style="list-style-type: none"> • Explain the importance of health and safety requirements and use of personal protective equipment in operationalization of vermicopost unit • Discuss importance of having environmentally safe work place 	
Classroom Aids:	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Shovels, Spades, Crowbars, Iron Baskets, Dung Fork, Buckets, Bamboo Baskets, Trowel, Weighing Scale, Weighing Machine (Platform Type), Gunny Bags, Bag Sealing Machine, Culture Trays (Plastic), Wheel Barrows	

Module 5: Basic entrepreneurial activities for small enterprise

Mapped to NOS AGR/N9908 v3.0

Terminal Outcomes:

- Perform activities for building a micro- enterprise for vermicomposting
- Computation of cost incurred in setting up and operationalizing a vermicomposting unit
- Market profitably the produced Vermicompost and vermiwash in vermicompost unit by appropriate channel
- Identification of various potential funding sources for adoption of vermicompost unit at farmers' field
- Describe the process of managing the vermicompost production process.
- Describe the process of managing the post-production and marketing processes.

Duration: 20:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain how to analyse the demand and supply of the Vermicompost/vermiwash in the market • Describe the process of identifying the target customers and assess their needs and expectations with respect to the quality and price of the produce. • Explain how to identify various types of agricultural entrepreneurship/ business opportunities. • Explain how to prepare a basic business plan for agricultural entrepreneurship/business activities. • State the appropriate sources of funding for the agricultural entrepreneurship/ businesses • State the relevant government schemes and programs • Explain the importance of ensuring compliance with the government structural reforms and • framework, along with the applicable rules and regulations. • List various resources required for agricultural production • Describe the process of planning 	<ul style="list-style-type: none"> • Demonstrate how to analyse the demand and supply of the relevant agricultural produce in the market. • Prepare a sample basic business plan for agricultural entrepreneurship/business activities. • Demonstrate how to calculate the costs incurred and determine the price of the product for profitability. • Prepare a sample marketing plan considering the 4Ps i.e., product, price, promotion, and place and 4As i.e., acceptability, affordability, accessibility, and awareness. • Demonstrate the process of using the relevant digital services such as e-commerce, e-payments, electronic recordkeeping, etc.

agricultural production and the use of relevant technologies to enhance production

- Explain the importance of ensuring no cause adverse impact on the environment and produce during production
- State the recommended practices to be followed for efficient input resource management.
- Describe the process of optimising the production processes and output through the amalgamation of existing practices with smart technologies.
- Explain the recommended sustainability practices to be followed during agricultural production to prevent and deal with deforestation, loss of biodiversity, soil degradation, etc.
- Explain how to collect information related to the wholesale and retail price of agricultural produce.
- Explain how to calculate the economics of the produce viz. production cost, price of the produce, B:C Ratio etc.
- Explain the relevant government schemes with the provision of subsidies/funds for the promotion of agricultural produce.
- Describe the process of selecting appropriate marketing channels for marketing agricultural produce, and the applicable requirements and constraints.
- List the relevant buyers of different types of agricultural produce.
- Explain how to identify and manage various risks to production and post-production processes.
- Explain how to undertake outreach programs to promote agricultural products and services, and expand agri-business.

<ul style="list-style-type: none"> • Explain the 4Ps i.e., product, price, promotion, and place and 4As i.e., acceptability, affordability, accessibility, and awareness considered while preparing and executing a marketing plan. • Explain the use of the relevant digital services such as e-commerce, e-payments, electronic recordkeeping, etc. • Explain the importance of using efficient post-production logistics. • Explain the importance of maintaining various records accurately. 	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 6: 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: 05:00	Duration: 05:00
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 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 7: Safety and emergency procedures

Mapped to NOS AGR/N9903 v4.0

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

Duration: 10:00	
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the 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 damages 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. • Discuss about importance of maintaining of farm equipment • Describe the environmental conditions required at farm • Explain the safety checklist and procedures followed by the organization • Discuss the bio-security protocols • Explain safe waste disposal methods • Discuss different types of sanitizers used for storage area and equipment and the procedure to use • Explain risk of various contagious diseases and measures to be taken 	<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 implements 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. • Demonstrate basic safety checks before operation of all tools and implements
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 8: Employability Skills (60 hours)

Mapped to NOS DGT/VSQ/N0102 v1.0

Duration: 60:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

3. 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
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 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.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

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

Career Development & Goal Setting Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

30. Describe the significance of analysing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. 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	
12th Class	Science	6	Vermicomposting/Organic Farming	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 case to case basis.
Diploma	Agriculture/Horticulture	3	Vermicomposting/Organic Farming	0		
Graduate	Graduate in any stream except Agriculture / Horticulture / Botany / Forestry	4	Vermicomposting/Organic Farming	0		For the school Program minimum qualification of the Trainer should be Graduate (Agriculture/Horticulture/Botany/Forestry) with minimum 3 years Teaching experience (will be considered industry experience)
Graduate	Agriculture / Horticulture/ Botany /Forestry	1	Vermicomposting/Organic Farming	0		
Post Graduate	Agriculture / Horticulture / Botany/Forestry/ Soil science/ Entomology/ Agronomy	0		0		

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Vermicompost Producer" mapped to QP: "AGR/Q1203 v4.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601, v1.0". 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	
Graduate	Agriculture / Horticulture / Botany / Forestry/Soil Science	5	Organic Crop Production/ Agronomy/Horticulture /Plant Protection/Soil health Management	0	NA	
Post-Graduate	Agriculture / Horticulture / Botany/Forestry/ Soil science/ Entomology/Agronomy	2	Organic Crop Production/ Agronomy/Horticulture /Plant Protection/Soil health Management	0	NA	
PhD	Agriculture / Horticulture / Botany/Forestry/ Soil science/ Entomology/Agronomy	1	Organic Crop Production/ Agronomy/Horticulture /Plant Protection/Soil health Management	0	NA	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role “ Vermicompost Producer ”, mapped to QP: “AGR/Q1203, v4.0”, Minimum accepted score is 80%	Certified for the Job Role: “Assessor”, mapped to the Qualification Pack: “MEP/Q2701, v1.0”, 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 empaneled 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
FYM	Farm Yard Manure
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
PwD	People with Disability
PPE	Personal Protective Equipment
QP	Qualifications Pack

