Model Curriculum

QP Name: Sericulturist

QP Code: AGR/Q5201

Version: 3.0

NSQF Level: 3

Model Curriculum Version: 2.0

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

Table of Contents

Training Parameters

Sector	Agriculture
Sub-Sector	Agriculture Allied Activities
Occupation	Silkworm Rearing
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6123.0201
Minimum Educational Qualification and Experience	8th Class with 1 year of relevant experience OR 5th Class with 3 years of relevant experience OR Ability to read and write with 5 Years of relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	17/11/2022
Next Review Date	17/11/2025
NSQC Approval Date	17/11/2022
QP Version	3.0
Model Curriculum Creation Date	17/11/2022
Model Curriculum Valid Up to Date	17/11/2025
Model Curriculum Version	2.0
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 cultivating mulberry trees for feeding silkworms.
- Describe the process of preparing for rearing silkworm.
- Demonstrate the process of incubating silkworm eggs and rear larvae.
- Demonstrate the process of performing pest and disease management during sericulture.
- Demonstrate the process of maintaining pupae, harvesting and processing cocoons, and carrying out marketing activities.
- Explain the basic entrepreneurial activities for small enterprise.
- Describe the process of undertaking employability and entrepreneurial practices.
- Demonstrate various practices to maintain health, hygiene and safety at the workplace.

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**	**0:00**	**05:00**
Module 1: Introduction to the role of a Sericulturist	05:00	0:00	0:00	0:00	05:00
AGR/N5201 Cultivate mulberry trees for feeding silkworms **NOS Version- 2.0** **NSQF Level- 4**	**10:00**	**15:00**	**0:00**	**0:00**	**25:00**
Module 2: Process of cultivating mulberry trees for feeding silkworms	10:00	15:00	0:00	0:00	25:00
AGR/N5202 Prepare for rearing silkworms **NOS Version- 2.0** **NSQF Level- 4**	**10:00**	**20:00**	**0:00**	**0:00**	**30:00**
Module 3: Process of preparing for rearing silkworms	10:00	20:00	0:00	0:00	30:00

AGR/N5203 Incubate silkworm eggs and rear larvae **NOS Version-2.0** **NSQF Level- 4**	**20:00**	**40:00**	**0:00**	**0:00**	**40:00**
Module 4: Process of incubating silkworm eggs and rear larve	20:00	40:00	0:00	0:00	40:00
AGR/N5205 Perform pest and disease management during sericulture **NOS Version-2.0** **NSQF Level- 4**	**10:00**	**20:00**	**0:00**	**0:00**	**30:00**
Module 5: Process of performing pest and disease management during sericulture	10:00	20:00	0:00	0:00	30:00
AGR/N5204 Maintain pupae, harvest and process cocoons, and carry out marketing activities **NOS Version-2.0** **NSQF Level- 4**	**20:00**	**40:00**	**0:00**	**0:00**	**40:00**
Module 6: Process of maintaining pupae, harvest and process cocoons, and carry out marketing activities	20:00	40:00	0:00	0:00	40:00
AGR/N9903 Maintain health and safety at the workplace **NOS Version- 3.0** **NSQF Level-4**	**15:00**	**15:00**	**0:00**	**0:00**	**30:00**
Module 7: Hygiene and cleanliness	05:00	05:00	0:00	0:00	10:00
Module 8: Safety and emergency procedures	10:00	10:00	0:00	0:00	20:00
DGT/VSQ/N0101 Employability Skills **NOS Version-1.0** **NSQF Level-2**	**30:00**	**00:00**	**0:00**	**0:00**	**30:00**
Module 9: Employability Skills	30:00	00:00	0:00	0:00	30:00
Total Duration	**120:00**	**150:00**	**0:00**	**0:00**	**270:00**

Module Details

Module 1: Introduction to the role of a Sericulturist

Bridge Module

Terminal Outcomes:

- Discuss the job role of a Sericulturist.

Duration: 05:00	Duration: 0:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the size and scope of the agriculture industry and its sub-sectors. - Discuss the role and responsibilities of a Sericulturist. - Identify various employment opportunities for a Sericulturist.	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of cultivating mulberry trees for feeding silkworms
Mapped to AGR/N5201 v2.0

Terminal Outcomes:

- Describe the process of selecting the site for mulberry cultivation.
- Demonstrate the process of preparing the field for mulberry cultivation.
- Demonstrate the process of propagating mulberry saplings.
- Demonstrate the process of transplanting the saplings.
- Describe the process of maintaining the mulberry trees.
- Demonstrate the process of harvesting mulberry leaves.

Duration: 10:00	Duration: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the criteria for selecting a mulberry variety to be grown for silkworm feed such as the agroclimatic conditions at the site. - Explain the criteria for selecting a site for mulberry cultivation, such as temperature, Relative Humidity (RH), sunlight exposure and rainfall, etc. - Explain the importance of ensuring the site is situated away from any factories, highways, source of effluents, etc. - List various inputs required for mulberry cultivation. - Describe the process of preparing the field for mulberry cultivation, such as clearing, tilling and levelling the field: soil fumigation: soil sampling, testing and application of necessary fertilisers, and mulching the field. - Explain the importance and process of creating drains for the field for effective drainage and harvesting of water. - Explain the importance of using mulberry cuttings of recommended dimensions for propagation. - Describe different planting methods such as paired row system, pit system, etc. - Explain the importance of maintaining the recommended	- Demonstrate how to remove tree stumps, roots, weeds, debris and waste materials from the site. - Demonstrate the process of carrying out tilling to the recommended depth and leveling the field using the appropriate farm machineries and implements. - Demonstrate the process of carrying out soil fumigation and applying the recommended chemical treatment to the soil to eliminate any harmful organisms such as nematodes. - Show how to water the soil with the recommended quantity after the prescribed period to wash away the chemicals applied to it - Demonstrate the process of applying the organic and/or inorganic treatment recommended by the lab. - Demonstrate the process of applying mulch the soil. - Show how to create drains in the field for effective drainage and harvesting of water. - Demonstrate the process of installing an appropriate irrigation or fertigation system in the field such as flat bed, and ridges and furrow. - Show how to erect fences around the field to protect it from external threats.

planting depth, density and temperature in the nursery bed.	• Demonstrate the process of sorting out the damaged and unsuitable seeds and cuttings
• State the recommended irrigation schedule for irrigating mulberry saplings.	• Demonstrate the process of treating the seeds and cuttings using the recommended insecticide, pesticide or fungicide as per the prescription.
• Explain the recommended practices to be followed to prevent root and collar rot in saplings.	• Demonstrate how to prepare the raised, level or sunken nursery bed as appropriate.
• State the recommended organic and inorganic fertilisers to be applied to mulberry saplings.	• Demonstrate the process of planting the treated seeds and cuttings in the nursery bed, maintaining the recommended planting depth and density.
• Explain the recommended preventive and remedial practices to be followed to protect mulberry saplings from relevant pests and diseases.	• Demonstrate how to irrigate the nursery bed with the recommended quantity of water as per the irrigation schedule.
• State the signs of maturity of mulberry saplings.	• Demonstrate the process of applying the recommended organic and inorganic fertilisers in an appropriate quantity for the healthy growth of saplings.
• State the recommended temperature and humidity for storing the harvested mulberry saplings.	
• Explain the importance and ways of protecting the saplings from direct sunlight and strong winds during the early stages of their growth.	• Demonstrate the process of carrying out hoeing and weeding in the nursery bed at appropriate intervals.
• State the recommended organic and inorganic fertilisers to be applied to mulberry trees for their healthy growth.	• Demonstrate the process of transplanting saplings in the field, maintaining the recommended planting depth and density.
• State the water requirements of mulberry trees during different stages of their growth.	• Demonstrate how to water the saplings with the recommended quantity and apply the recommended organic or inorganic fertiliser immediately after transplanting.
• Explain the recommended preventive measures to be followed to protect mulberry saplings from pests and disease.	
• State the signs of pest and disease infestation in mulberry trees and the recommended treatment to be applied to cure them.	• Demonstrate the process of applying the recommended organic and inorganic fertilisers to the field in the recommended required quantity.
• Explain the importance of ensuring no waterlogging in the mulberry field.	• Demonstrate how to irrigate the mulberry trees with the recommended quantity of water as per the irrigation schedule.
• Explain the importance of mulching to prevent the growth of weeds and the process of weeding.	
• State the signs of maturity of	• Show how to drain out excess water from the field.

mulberry leaves. • State the recommended temperature and humidity for storing the harvested mulberry leaves to preserve their freshness.	• Show how to prune the mulberry trees, as required. • Demonstrate the process of applying mulch the field to prevent the growth of weeds. • Demonstrate the process of carrying out weeding and hoeing at appropriate intervals. • Demonstrate the process of harvesting tender mulberry leaves manually or mechanically, along with branches or shoots.

Classroom Aids

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

Tools, Equipment and Other Requirements

Mulberry Garden Establishment, Pruner, Mouldboard, Disk Plough, Harrow, Cultivator, Mulberry Cutting Machine, Weeder, Tiller, Sprayer, Bush Cutter

Module 3: Process of preparing for rearing silkworms
Mapped to ARG/N5202 v2.0

Terminal Outcomes:

- Describe the process of arranging the required resources.
- Demonstrate the process of setting up the rearing house.
- Demonstrate the process of disinfecting and preconditioning the rearing house, tools, implements and equipment.
- Demonstrate the process of preparing mulberry leaves for feeding.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the use of relevant PPE, tools and equipment such as disinfection mask, protective gumboots, sprayer, room heater, water air cooler, kerosene blowlamp, wet and dry thermometer, forceps, etc. - List various items and accessories required for rearing silkworms. - Describe the process of procuring silkworm eggs, tools, implements, equipment and other resources. - Explain the importance of arranging safe and hygienic transportation and storage of silkworm eggs under the recommended temperature and humidity. - Explain the criteria for selecting a site for the construction of the rearing house. - Describe the process of constructing the rearing house and the importance of ensuring adequate space and number of windows for ventilation in it. - Explain the importance of having temperature control equipment in the rearing house to control the temperature during unfavourable weather along with provision for making it air-tight for the purpose of disinfecting it. - Explain the importance of ensuring effective drainage of water in the	- Demonstrate how to spread the silkworm loose eggs uniformly over appropriate material such as paraffin papers or wet foam pads and cover them. - Prepare a sample record of the purchase. - Demonstrate the process of cleaning and disinfect the rearing house, tools, implements and equipment using the recommended disinfectant such as chlorine dioxide, bleach, slaked lime. - Show to chop the mulberry leaves uniformly for feeding larvae. - Demonstrate how to spray water on the chopped mulberry leaves at regular intervals or cover them with paraffin paper or wet foam pads to preserve their freshness.

rearing house.

- Explain the importance and process of disinfecting and preconditioning the rearing house, tools, implements and equipment, using the recommended disinfectant.

- Explain the importance of using the trays of recommended dimensions during the rearing of young larvae.

- Describe the process of preparing mulberry leaves for feeding silkworms and ensuring the leaves are succulent and rich in nutrients and moisture.

- Explain the use of a leaf preservation chamber for maintaining the freshness of mulberry leaves.

Classroom Aids

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

Tools, Equipment and Other Requirements

Rearing House, Rearing Equipments, Paraffin Paper, Wet Foam Pad, Rearing Tray, Power Sprayer, Bleaching Powder, Lime Powder, Bed Disinfectants, Slides And Cover Slips, Gunny Cloth, Cora Cloth, Disinfectants/Chemicals, Flame Gun, Egg Transportation Box, Egg Incubation Chamber, Incubation Frame, Humidifier, Heater, Leaf Chopper, Leaf Chopping Board, Leaf Chopping Knife, Leaf Mat, Bed Cleaning Nets, Earthen Pot, Litter Basket, Ant Well, Black Box, Wet And Dry Thermometer, 6" Forceps

Module 4: Process of incubating silkworm eggs and rear larve
Mapped to AGR/N5203 v2.0

Terminal Outcomes:

- Describethe process of preserving and incubate the silkworm eggs.
- Demonstrate the process of carrying out brushing and feed the larvae.
- Describe the process of maintaining the rearing bed.
- Explain the importance of ensuring smooth moulting.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of preserving the silkworm eggs in an earthen pot for the recommended duration prior to incubation. - Explain the importance of maintaining the silkworm eggs in a dark storage area at the head pigmentation stage and exposing them to light at the appropriate time. - Explain the use of a net of the recommended mesh size for feeding the larvae. - Explain the importance of feeding the larvae with the recommended quantity of tender and uniformly-chopped mulberry leaves, and ensuring the leaves are rich in nutrients and moisture. - State the recommended feeding schedule to be followed for the optimum growth of larvae. - Explain the importance and process of maintaining cleanliness in the rearing bed. - Explain the recommended practices to be followed to prevent insects from coming to the rearing bed. - State the recommended temperature and humidity, and space to be maintained on the rearing bed. - State the recommended duration for maintaining larvae in the rearing bed until their development into pupae. - Explain how to detect moulting in	- Demonstrate the process of incubating the silkworm eggs in the incubator at the recommended temperature. - Demonstrate the process of carrying out brushing to separate the hatched larvae from their eggshells and transferring them to rearing trays covered with paraffin paper. - Show how to feed the larvae with the recommended quantity of tender and uniformly chopped mulberry leaves. - Show how to remove the silkworm excreta and leftover leaves from the rearing bed and dispose them safely. - Demonstrate how to aerate the rearing bed appropriately. - Demonstrate the process of applying lime during the moulting of larvae to maintain dryness in the rearing bed.

larvae.

- Explain the importance and ways of maintaining the recommended temperature and humidity in the rearing bed under different climatic conditions.

- Explain the importance of stopping or resuming feeding of larvae during moulting for the uniform growth of silkworms, and maintaining the rearing bed thin and dry.

- Describe the process of moulting of larvae and the importance of ensuring no disturbance to them during the process.

- Explain the different stages of growth of larvae and the terminology used to refer to them.

- Explain the importance of using mulberry leaves of medium maturity or coarse leaves according to the stages of growth of larvae.

- Explain how to identify mature mulberry leaves and the importance of not using them to prevent disease outbreaks.

- Explain the use of the recommended rearing bed disinfectants.

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

Tools, Equipment and Other Requirements
Leaf Chopper, Net With Mesh, Chawki Rearing Tray, Rearing Bottom Stand, Tray Washing Machine, PVC Stands, Feeding Stand, Humidifier, Heater, Wet And Dry Thermometer, 6" Forceps

Module 5: Process of performing pest and disease management during sericulture

Mapped to NOS AGR/N5205 v2.0

Terminal Outcomes:

- Describe the process of maintaining hygiene in the rearing house.
- Demonstrate the process of performing pest and disease management.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of maintaining cleanliness along with appropriate temperature and humidity in the rearing house. - State the recommended treatment to be applied in the rearing house to prevent pests and disease. - Explain the use of relevant PPE. - Explain the recommended practices to be followed to prevent infestation by silkworm pests such as beetles, ants, straw mites, vertebrate predators, etc. - List the signs of pests and disease infestation in silkworms. - Explain importance and process of coordinating with an approved laboratory to determine diseases and disorders in silkworms. - Describe the process of quarantining the unhealthy silkworms and treating them with the treatment prescribed by the laboratory. - List the signs of recovery in unhealthy silkworms. - Explain the importance and process of maintaining the record of treatment used to treat silkworms. - Describe the process of identifying, segregating and disposing the moribund and dead silkworm.	- Demonstrate the process of apply the recommended chemical or solution in the rearing house to prevent pests and disease. - Demonstrate how to treat the unhealthy silkworms with the treatment prescribed by the laboratory. - Prepare a sample record of treatment used to treat silkworms.
Classroom Aids:	
Training Kit (Trainer **G**uide, Presentations). Whiteboard, Marker, Projector, Laptop	

Tools, Equipment and Other Requirements

Humidifier, Heater, Flame Gun, Chawki Dusting Machine, Sprayer, Personal Protective Equipment Like: Helmet / Head Gear, Safety Gloves, Safety Boots, Face Mask, First Aid Kit: Bandages, Adhesive Bandages, Betadine Solution / Ointment, Pain Relief Spray / Ointment, Antiseptic Liquid; Phone Directory, Search Lights, Fire Extinguisher

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Module 6: Process of maintaining pupae, harvest and process cocoons, and carry out marketing activities

Mapped to NOS AGR/N5204 v2.0

Terminal Outcomes:

- Describe the process of stocking and preparing pupae for cocoon spinning.
- Demonstrate the process of transfering pupae to mountage for cocoon spinning.
- Describe the process of monitoring the cocoon spinning process.
- Demonstrate the process of harvesting cocoons and obtain silk threads.
- Describe the process of marketing the raw silk and cocoons.
- Demonstrate various practices for effective resource optimisation.
- Demonstrate various waste management practices
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 20:00	Duration: 40:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of ensuring adequate space on mountage to allow pupae to spin cocoon. - Explain the importance of positioning the mountage appropriately to prevent staining of cocoons by pupae's urine. - Describe the process of identifying and removing the unhealthy and dead pupae from the mountage. - State the recommended temperature, humidity and light exposure to be maintained during the cocoon spinning process. - Explain the recommended practices to be followed to prevent attack by predatory ants during the spinning process. - Explain how to achieve uniform spinning of cocoons. - State the appropriate time and stage for transferring the pupae to mountage. - State the recommended number of pupae to be maintained on the mountage. - Explain the importance and need of maintaining the mountage under	- Demonstrate how to prepare trays of appropriate materials such as bamboo and paper for stocking pupae. - Show how to feed pupae with fresh mulberry leaves as per the feeding schedule. - Demonstrate the process of applying the recommended chemicals on mulberry leaves in the prescribed quantity. - Demonstrate how to remove faeces and leftover mulberry leaves, and disinfect the trays using the approved disinfectant. - Show how to collect pupae from the tray after they achieve the required growth, using a net and transfer them to the mountage for spinning cocoons. - Show how to remove the unhealthy and dead pupae from the mountage. - Demonstrate the process of harvestig the cocoons containing appropriate quantity with mature pupae in them. - Demonstrate how to process the payments using the buyer-preferred e-payment method.

shade and good ventilation.

- Explain the importance and ways of controlling fluctuations in humidity to prevent thinning and thickening of silk filament.

- List the signs of maturity of pupae such as colour and hardness.

- State the appropriate time, and process of harvesting the cocoons.

- Describe the process of exposing the cocoons to heat or steam via sunlight exposure or boiling, and undertaking the reeling process to separate and obtain raw silk fibre from them.

- Explain how to identify, connect and negotiate with the potential buyers of raw fibre silk and cocoons.

- State the appropriate packing material to be used to pack raw silk fibre and cocoons.

- Explain the relevant labelling requirements.

- Explain use of different types of e-payment methods.

- Explain the importance of maintaining the record of sales and payments.

- Prepare a sample manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application.

Classroom Aids:

Training Kit (Trainer **G**uide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Projector, Late Age Rearing Trays, Rearing Stand, Shoot Rearing Rack, Plastic Basin, Buckets, Mugs, Plastic Box, Foam Pads, Foot Rugs, Leaf Chamber For Late Age, Leaf Basket And Cleaning Nets , PVC Stands, Humidifier Cum Heater, Deflosser, Silkworm Separator, Cocoon Harvestor, Plastic Mountage Pressing Tool, Flame Gun

Module 7: 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: 05:00	Duration: 05:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- 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.	- 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 8: 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: 10:00	Duration: 10:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- 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.	- Check various areas of the workplace for leakages, water-logging, pests, fire, etc. - Demonstrate how to safely use the PPE and implements 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.	

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Module 9: Employability Skills (30 hours)
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

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

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
12th Class	Science	6	Sericulture	0		Ex-Service-Man including Ex-Paramilitary personnel: Minimum Qualification is 10+2 with an Honorable Discharge/Pension.SSC would consider a relaxation/waiver of sector-specific experience on case to case basis.
Diploma	Sericulture/ Agriculture /Horticulture	3	Sericulture	0		
Graduate	Graduate in any stream except Agriculture/ Horticulture/ Botany/ Forestry/ Agriculture/ Sericulture/ Entomology and related streams	3	Sericulture	0		For the school Program minimum qualification of the Trainer should be Graduate in Botany/Zoology with Teaching experience of minimum 2 years. (will be considered industry experience)
Graduate	Agriculture/ Horticulture/ Botany/ Forestry/ Agriculture/ Sericulture/ Entomology and related streams	0.5	Sericulture	0		

Trainer Certification	
Domain Certification	**Platform Certification**

Certified for Job Role "**Sericulturist**", mapped to QP: "AGR/Q5201, v2.0", Minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: "Trainer(Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Graduation	Agriculture/ Sericulture/ Entomology and related experiences	5	Agriculture/ Sericulture/ Silk Tech & Management and related experience	0		Practical skills and knowledge required in silkworm rearing to produce raw silks and silk yarns
Post-Graduation	Agriculture/ Sericulture/ Entomology/ Silk Technology and related experiences	2	Agriculture/ Sericulture/ Silk Tech & Management and related experience	0		Practical skills and knowledge required in silkworm rearing to produce raw silks and silk yarns
PhD	Agriculture/ Sericulture/ Silk Technology/ Entomology and related experiences	1	Agriculture/ Sericulture/ Silk Tech & Management and related experience	0		Practical skills and knowledge required in silkworm rearing to produce raw silks and silk yarns

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**Sericulturist**", mapped to QP: "AGR/Q5201, 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. <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.

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:

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

- o Assessment checklist for assessor
- o Candidate Aadhar/ID card verification
- o 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, 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