Model Curriculum

QP Name: Poultry Hatchery Operator

QP Code: AGR/Q4402

QP Version: 4.0

NSQF Level: 3

Model Curriculum Version: 3.0

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

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Training Parameters

Sector	Agriculture
Sub-Sector	Poultry
Occupation	Poultry Hatchery Operations
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6122.0401
Minimum Educational Qualification and Experience	10th or equivalent OR 8th grade pass with 3 year of relevant experience in agriculture and allied sectors OR 5th grade pass with 6 year of relevant experience in agriculture and allied sectors OR Previous relevant Qualification of NSQF Level 2 with 3 year of relevant experience in agriculture and allied sectors OR Previous relevant Qualification of NSQF Level 2.5 with 1.5 year of relevant experience in agriculture and allied sectors
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	26-11-2024
Next Review Date	26-11-2027
NSQC Approval Date	26-11-2024
QP Version	4.0
Model Curriculum Creation Date	26-11-2024
Model Curriculum Valid Up to Date	26-11-2027
Model Curriculum Version	3.0

Minimum Duration of the Course	300 Hours
Maximum Duration of the Course	300 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.

- Prepare work area for hatchery operations: Hatchery machine check-ups, setting of machine, air pressure check-ups, egg disinfection, egg setting and incubation programs, hatchery climate control, set the incubator
- Ensure proper working conditions: Placement of equipment, maintenance of temperature, placement of eggs etc.
- Maintain the record book: Eggs received, eggs set in the time duration, setter capacity utilization, percentage of culls, total saleable chicks, number of equipment used, total sold chicks etc.
- Maintain health and safety: Clean and disinfect the hatchery, hygiene maintenance, etc

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/N4407: Prepare and maintain work area for hatchery operations **NOS Version- 3.0** **NSQF Level- 3**	**30:00**	**30:00**	**0:00**	**0:00**	**60:00**
Module 1: Introduction to the role of a poultry Hatchery Operator	05:00	00:00	0:00	0:00	05:00
Module 2: Work area preparation and maintenance for hatchery operations	21:00	26:00	0:00	0:00	47:00
Module 3: Effective communication at the workplace	04:00	04:00	0:00	0:00	08:00
AGR/N4408: Maintain proper working conditions within the setter room **NOS Version- 3.0** **NSQF Level- 3**	**20:00**	**40:00**	**0:00**	**0:00**	**60:00**

Module					
Module 4: Maintaining Proper working conditions within the setter room	20:00	40:00	0:00	0:00	60:00
AGR/N4409: Maintain records related to setting operations **NOS Version- 3.0** **NSQF Level- 3**	**20:00**	**40:00**	**0:00**	**0:00**	**60:00**
Module 5: Documentation and record keeping	20:00	40:00	0:00	0:00	60:00
AGR/N4410: Maintain safety, hygiene and sanitation of hatchery **NOS Version- 3.0** **NSQF Level- 3**	**20:00**	**40:00**	**0:00**	**0:00**	**60:00**
Module 6: Hygiene and cleanliness	03:00	3:00	0:00	0:00	06:00
Module 7: Safety and emergency procedures	05:00	17:00	0:00	0:00	22:00
Module 8: Hatchery waste disposal and compliance with bio-security protocols	12:00	20:00	0:00	0:00	32:00
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**	**30:00**	**0:00**	**300:00**

Module Details

Module 1: Introduction to the role of a Poultry Hatchery Operator
Mapped to AGR/N4407 v3.0

Terminal Outcomes:

- Discuss the role and responsibilities of a Poultry Hatchery Operator
- Demonstrate Hatchery rooms/ structures and various equipment's used in hatchery unit

Duration: *05:00*	Duration: *05:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss the role and responsibilities of a Poultry Hatchery Operator and their progression pathways - Describe the scope and opportunities in the Poultry Industry - Explain Hatchery rooms/ structures - Discuss various equipment used in the hatchery unit - Enlist sequences of hatchery operations followed in commercial hatcheries - Discuss about the suitable / supporting factors required for hatching of eggs - Describe the working environment and schedule of working - Explain Importance of sanitized environment and working area for hatchery	- Demonstrate Hatchery rooms/ structures - Demonstrate various equipment used in the hatchery unit
Classroom Aids:	
Training kit - Trainer guide, Presentations, Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Tools and equipment's of Hatchery unit	

Terminal Outcomes:

- Show how to prepare and maintain the work area for hatchery operations
- Explain benefits of following hygiene and safety guidelines.
- Demonstrate proper method of receiving clean hatching egg
- Show proper storage method in egg holding room
- Demonstrate candling of egg for removing infertile eggs
- Show proper grading of eggs

Duration: *21:00*	Duration: *26:00*
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
- Explain organization's hatchery management practices and hatchery welfare regulations - Discuss hatchery design and layout - Discuss important criteria in breeder flock management for better quality eggs - List materials and equipment used for managing operations in a hatchery and explain their functions and use - Explain the Importance of proper maintenance and storage of tools and equipment. - List some environmentally sound methods for managing bird waste - Discuss importance of resource optimization in hatchery - Discuss preventative action for the problems that may arise in carrying out hatchery tasks - Explain the optimal environmental conditions required for various hatchery operations - Discuss methods to reduce the contaminations and microbial load in hatching eggs - Discuss methods of collection of eggs and its frequency - Discuss optimum sex ratio for better fertility	- Demonstrate use of materials and equipment for managing hatchery operations - Show how to prepare and maintain tools and equipment for carrying out operations in the hatchery according to standard operating procedure - Demonstrate appropriate environmentally sound methods of waste disposal as per the defined SOP and industry requirements - Demonstrate proper method of fumigation of eggs for sanitation - Show how to receive cleaned hatching eggs safely and store the eggs properly in egg holding room - Show how to carry out pre incubation warming - Demonstrate proper loading of eggs in the setter - Show how to perform candling of eggs for removing infertile eggs - Show proper transfer egg to the hatcher - Show how to carry out grading of eggs and manage quality - Show how to carry out fumigation of eggs for sanitation - Demonstrate effective health and safety methods and systems for

● Discuss the day-to-day hatchery schedule till chick comes out.	workers in the hatchery
● Discuss benefit of maintaining clean work area for hatchery operations	● Show how to replenish materials and supplies as per requirements
● Discuss importance of pre incubation warming	
● Discuss various factors taken into consideration for grading of eggs and techniques of grading	
● Discuss optimum environmental conditions and its management for egg storage	
● Discuss optimum period for which egg should be stored and effect of prolonged storage on hatchability	
● Explain the importance and the process of fumigation	
● Describe the sequences of hatchery operations followed in commercial hatcheries viz. Securing hatching eggs, Traying hatching eggs, Fumigation, Cold Storage, Warm eggs prior to setting, loading of eggs, Candling, transfer of eggs, Pulling the hatch, Hardening, Grading, Sexing, Vaccination, Chick delivery, Washing and cleaning and Disposal of waste	
● Discuss the Standard Operating procedures for cleaning the work area and for equipment operation and maintenance	

Classroom Aids:

Training kit - Trainer guide, Presentations, Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Hatchery, Incubator, Setter, Eggs, candling room

Module 3: Effective communication at the workplace
Mapped to AGR/N4407 v3.0

Terminal Outcomes:
- Apply techniques for effective communication with the internal and external stakeholders.
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 04:00	Duration: 04:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of verbal and non-verbal communication at the workplace. - Explain the effective methods of sharing and seeking information and feedback at the workplace. - Explain the procedure for completing work-related documentation. - Explain the importance of inclusion of all genders and People with Disability (PwD) at the workplace. - Explain gender concepts (gender as a social construct, gender sensitivity, gender equality etc.), issues and applicable legislation. - Explain ways in which a conducive working environment can be created for all genders and PwD. - Define the need for appropriate verbal and non-verbal communication while interacting with all genders and PwD. - Explain the applicable PwD related regulations. - Explain the procedure to report inappropriate behaviour e.g., harassment.	- Demonstrate the requisite level of proficiency in verbal and non-verbal communication at the workplace. - Demonstrate different approaches to mentoring an apprentice at the workplace. - Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.
Classroom Aids:	
Trainee's Training Kit and Guide, Power-Point Presentation, Computer, Projector, Black/ Whiteboard. Charts And Videos on Workplace Communication.	
Tools, Equipment and Other Requirements	
Workplace Records and Documents.	

Module 4: Maintain Proper working conditions within the setter room
Mapped to AGR/N4408 v3.0

Terminal Outcomes:

- Demonstrate how to maintain proper working conditions within the setter room
- Demonstrate equipment within the setter room and their proper placements
- Explain major functions that are involved in the incubation and hatching of poultry eggs
- Show how to maintain optimum condition in the setter room and in the hatcher
- Demonstrate technique of setting of egg in setter
- Show how to maintain hygiene during egg transfer
- Demonstrate how to carry out regular check and observations of hatchery

Duration: *20:00*	Duration: *40:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain methods for maintaining environmentally sound conditions within the setter room as per organization's guidelines - Discuss recommended temperature, humidity and oxygen level for the setter room - Discuss microenvironment factor of the setter - Discuss major functions that are involved in the incubation and hatching of poultry eggs - Discuss purpose of candling and the appropriate time of candling during incubation - Discuss the concept of hatchability and best practices for achieving adequate hatchability - Explain factors that influence fertility and hatchability of eggs - Describe the appropriate cleaning routines to setting room and equipment - Explain the Arrangement of equipment in the setter room - Discuss importance of airflow in the incubator - List the procedures of setting room and its operation - List the hygiene standards, disinfectants, cleaning agents, cleaning techniques and cleaning equipment and materials - Discuss preventative action for the problems that may arise in carrying out hatchery tasks	- Demonstrate how to accommodate all the equipment in the setter room carefully - Demonstrate preparation of setter before setting - Demonstrate technique of setting of egg in setter - Demonstrate structural and functional activities of the setter for hatching performance maximization - Show how to maintain optimum temperature for the chicken egg in the setter room for the first 18 days and in the hatcher (last 3 days) - Demonstrate how to maintain optimum relative humidity range in the setter for the first 18 days - Show how to maintain oxygen content of the air in the setter - Demonstrate turning of eggs in setter safely at regular interval - Demonstrate candling instrument design and their operation - Analyse the duration for hatching of eggs - Show how to carry out regular check and observations of hatchery - Demonstrate technique of egg transfer from setter to hatcher - Show proper space arrangements required between setters and between walls and setters - Demonstrate how to maintain hygiene during egg transfer - Demonstrate troubleshooting and maintenance of the equipment

Classroom Aids:
Training kit - Trainer guide, Presentations, Whiteboard, Marker, Projector, Laptop
Tools, Equipment and Other Requirements
Setter, Incubator, Hatchery

Module 5: Documentation and record keeping
Mapped to AGR/N4409 v3.0

Terminal Outcomes:

- Explain importance of hatchery records to improve hatchery efficiency
- Show how to maintain the records related to management of setting operations and other hatchery related data
- Discuss technical input and output details in hatchery records
- Demonstrate Discuss troubleshooting of hatchability and hatchery equipment's for optimum hatchery performance

Duration: *20:00*	Duration: *40:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss the importance of documentation and maintenance of accurate and complete production records - Discuss importance of hatchery record in improving hatchery performance - Describe technical input and output details in hatchery records - Discuss various formats and proforma for capturing data as per organization need - Explain how to record and maintain the book/register or in electronic documentation system - Explain about the methods to track back the record from finished product to raw material. - Explain the major/common observation noted in the document regarding hatchery operation - Explain how to record and maintain digital documents (if available) - Discuss methods of maintaining equipment maintenance records and trouble shoot the hatchery equipment's for optimum hatchery performance - Discuss troubleshooting of hatchability - Discuss importance of effective communicate with the team members at workplace - Enlist the issues that may arise in absence of supervisor and ways of handling it - Discuss the importance of reporting operational issues, malfunctions and other anamolies	- Demonstrate documentation and record maintenance in hatchery viz. quality control for eggs received, egg disinfection, egg setting and incubation programs, egg transfer, loading the hatchers and hatch programs, chick pulling and quality control, vaccination, chick transport etc. - Show documentation and record maintenance in hatchery like- cost analysis including egg production, egg cost per chick hatched, egg cost per chick sold, total cost of hatching, selling of chicks etc - Demonstrate how to maintain records of equipment used in the hatchery, incubator and any deviation in physical conditions of the room. - Show how to document and maintain in hatchery sheet include Serial setting number, number of eggs set, type of eggs, strain, source of eggs, number of eggs discarded, number of eggs transferred to hatcher, number of good chicks hatched, number of weak chicks, number of pullet chicks (in case of egg-type only), number of male chicks and mode of disposal, per cent total hatchability and per cent fertility. - Demonstrate ways of maintaining data for ERP or as required by the organization in prescribed format - Demonstrate methods of trouble shooting the hatchery equipment's for optimum hatchery performance - Document records of incubation parameters, including temperature, humidity, and egg-turning intervals, for each batch of eggs, hatchability rates, chick mortality, and egg fertility statistics

Classroom Aids:

Training kit - Trainer guide, Presentations, Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Record Books, Bills for Expenses, Budget Allocation Sheet, Receipt Invoice etc.

Module 6: Hygiene and cleanliness
Mapped to AGR/N4410 v3.0

Terminal Outcomes:

- Discuss how to adhere to personal hygiene practices.

- Demonstrate ways to maintain hatchery sanitation.

Duration: 03:00	Duration: 03:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the requirements and importance of personal health, hygiene and fitness at work. - Discuss importance of having and maintaining hygienic hatchery environment - 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. - Explain the process of cleaning for various stages in the hatchery operation as per SOPs - Explain appropriate methods of washing and disinfestation of setting and hatching trays, incubator and hatcher rooms - Explain the importance of hygiene in and around the incubator and hatcher and also importance of maintaining equipment - Explain benefits of using appropriate disposable type container for transportation of chicks - Explain methods of fumigation of eggs after collections	- 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. - Demonstrate effective methods of fumigation of eggs and equipment's - Demonstrate procedure for cleaning and disinfection setting and hatching trays, incubator and hatcher rooms and sexing equipment after every batch - Demonstrate sorting of dirty and cracked eggs and their safe disposal methods - Demonstrate transportation of chicks in appropriate disposable type container
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 AGR/N4410 v3.0

Terminal Outcomes:

- Describe how to adhere to safety guidelines.
- Demonstrate proper hatchery waste disposal and compliance with bio-security protocols
- Show how to administer appropriate emergency procedures.

Duration: 05:00	Duration: 17:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- 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. - Explain the preventive measure taken during hatchery operation 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 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 8: Hatchery waste disposal and compliance with bio-security protocols
Mapped to AGR/N4410 v3.0

Terminal Outcomes:

- Demonstrate proper hatchery waste disposal
- Explain compliance requirements and their fulfilment as per bio-security protocols

Duration: 12:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss type of hatchery waste - Enlist the recyclable and reusable material - Discuss the proper hatchery waste disposal methods - Explain appropriate waste treatment/management methods - Discuss methods to recycle egg shell - Explain bio-security measures applicable at the hatchery unit. - Explain different types of sanitizers used for storage area and equipment and the procedure to use - Explain about the importance and different types of disposal bags used in hatchery operation (reusable and recyclable) - Explain requirement of proper temperature level, light intensity, moisture level, ventilation etc. - Explain the Importance of following the health, hygiene, safety and quality standards on consumers and the business	- Demonstrate appropriate method of waste segregation into different categories (viz. infertile eggs, non-hatched eggs, membranes, eggshells, etc) and their proper disposal as per organizational guidelines - Demonstrate waste disposal by burning in specially constructed facilities(incinerators) - Show how to adhere to bio-security protocols in accordance with workplace standards - Demonstrate technique of packaging of chicks for optimum comfort zone - Demonstrate chick handling prior to transport from hatcher - Show proper use of personal protective equipment while fumigation and following bio-security protocols as per SOPs

Classroom Aids:

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

Tools, Equipment and Other Requirements

First Aid Kit, Disinfectants, Sanitizers, Sprayer, Face Mask, Gloves, Gum Boots, Disposal Bags

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*	
Diploma	Veterinary /Animal Husbandry / Poultry	3	Poultry Farming	0		Regular Diploma more than 15 months
Graduate	Graduate in any stream except Agriculture	3	Poultry Farming	0		For the school Program minimum qualification of the Trainer should be Graduate (Zoology/Agriculture/Poultr y Science). With minimum 3 years of teaching experience (will be considered industry experience)
Graduate	Agriculture	2	Poultry Farming	0		
Graduate	Poultry /Animal Husbandry/Poultry Production and Business Management/ Poultry Production and Hatchery Management	1	Poultry Farming			
B. V. Sc.		0		0		
Post Graduate	Animal Science/Poultry Production/Poultr y Science/Applied Poultry Science	0		0		

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "Poultry Hatchery Operator", mapped to QP: "AGR/Q4402, v4.0", 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 Prerequisites					
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Graduation	B. V. Sc.	5	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Graduation	B. V. Sc.
Graduation	B. Tech (Poultry Production Technology and other related streams)	4	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Graduation	B. Tech (Poultry Production Technology and other related streams)
Graduation	B.Sc (Animal Husbandry/Poultry Production and Business Management/ Poultry Production and Hatchery Management)	5	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Graduation	B.Sc (Animal Husbandry/Poultry Production and Business Management/ Poultry Production and Hatchery Management)
Post-graduation	M.Sc (Animal Science/Poultry Production/Poultry Science/Applied Poultry Science and other related streams)	2	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Post-graduation	M.Sc (Animal Science/Poultry Production/Poultry Science/Applied Poultry Science and other related streams)
Post-graduation	M. V. Sc	2	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Post-graduation	M. V. Sc
Post-graduation	M.Tech (Poultry Technology and other related streams)	2	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Post-graduation	M.Tech (Poultry Technology and other related streams)
Ph. D	Poultry Science/Animal Science/ Veterinary Science/Animal Genetics and Breeding	1	In Animal Science/Veterinary Science /Poultry Science and related experience	0	Ph. D	Poultry Science/Animal Science/ Veterinary Science/Animal Genetics and Breeding

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Poultry Hatchery Operator" mapped to QP: "AGR/Q4402, v4.0". 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 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.

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 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

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 testing objectives of each question and other quality measures.

Type – Questions based on Knowledge Required, Case-based practical scenario questions and automated simulation-based questions.

Practical Skills - The practical assessments are developed taking into consideration two aspects: what practical tasks is the candidate expected to perform on the job and what aspects of the job cannot be judged through theoretical assessments. The candidates shall be asked to perform either an entire task or a set of subtasks depending on the nature of the job role

Type – Standardized rubrics for evaluation against a set of tasks in a demo/practical task

Viva Voce - Those practical tasks which cannot be performed due to time or resource constraints are evaluated through the viva mode. Practical tasks are backed up with Viva for thorough assessment and complete evaluation

Type – Procedural questions, dos and don'ts, subjective questions to check the understanding of practical tasks.

The assessor has to go through an orientation program organized by the Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. The assessor shall be given a NOS and PC level overview of each QP as applicable. The overall structure of assessment and objectivity of the marking scheme will be explained to them. The giving of marks will be driven by an objective framework that will maintain standardization of the marking scheme.

Type of Evidence and Evidence Gathering Protocol:

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

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

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

Result Review & Recheck Mechanism –

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

References

Glossary

Term	Description
Sector	The Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests
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