



Model Curriculum

QP Name: Dairy Farmer / Entrepreneur

QP Code: AGR/Q4101

QP Version: 3.0

NSQF Level: 4

Model Curriculum Version: 2.0

Agriculture Skill Council of India || Agriculture Skill Council of India (ASCI), 6th Floor, GNG Tower, Plot No. 11, Sector -44

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Training Parameters

Sector	Agriculture & Allied
Sub-Sector	Dairying
Occupation	Dairy Farm Management
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6121.0201
Minimum Educational Qualification and Experience	<p>10th Class with 2 years of relevant Experience OR 10th Class Pass and pursuing continuous regular schooling OR 8th Class with 3 Years of relevant experience OR Previous relevant qualification of NSQF Level 3 with minimum education as 5th grade pass with 2 Years of Experience</p> <p>Age: 17 Years</p>
Pre-Requisite License or Training	N/A
Minimum Job Entry Age	17 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	390 Hours
Maximum Duration of the Course	390 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:

- Describe about dairy industry, input requirements, site selection, cattle selection, budget estimation, procurement of inputs, etc.
- Describe the process of constructing and maintaining accommodation for cattle, resources availability, shed construction and types, maintenance of shed
- Describe the process of preparing and giving recommended feed and water for livestock, feed nutrients composition, feed requirements
- Maintaining health of livestock along with productivity, vaccination of cattle, nutrients requirements
- Describe the process of preparing forage, types of forage, types of storage for forage
- Demonstrate effectively market dairy products like milk, curd, cheese
- Describe the process of milk products manufacturing, standards and market value
- Describe the process of maintaining safe and clean dairy farm

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	5:00	00:00			05:00
Module 1: Introduction to the role of a Dairy Farmer/Entrepreneur	5:00	00:00			05:00
AGR/N4101 - Prepare and maintain livestock accommodation NOS Version No. 2.0 NSQF Level 4	10:00	15:00			25:00
Module 2: Process of preparing and maintaining livestock accommodation	10:00	15:00			25:00
AGR/N4102 - Establish Livestock within accommodation NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00

Module 3: Process of establishing and monitoring livestock within accommodation	10:00	20:00			30:00
AGR/N4103 – Prepare the feed and maintain feed and water supply NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00
Module 4: Process of preparing feed for Livestock	10:00	20:00			30:00
AGR/N4104 - Maintain Health and Performance of Livestock NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00
Module 5: Know-how of maintaining healthy performance of livestock	10:00	20:00			30:00
AGR/N4105 – Perform Hand and Machine Milking NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00
Module 6: Practices for good hand and machine milking	10:00	20:00			30:00
AGR/N4106: Ensure Proper Forage NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00
Module 7: Practice for proper Foraging	10:00	20:00			20:00
AGR/N4114 – Carry out Breed Improvement and Reproduction Management in Livestock NOS Version No. 1.0 NSQF Level 4	15:00	15:00			30:00
Module 8: Practices of Breed improvement of livestock	15:00	15:00			30:00
AGR/N4107 – Carry out basic Entrepreneurial activities for small enterprise NOS Version No. 2.0 NSQF Level 4	10:00	20:00			30:00
Module 9: Process of Planning, budgeting and marketing	10:00	20:00			30:00

AGR/N4121: Engage in collective dairy farming/activity NOS Version No. 1.0 NSQF Level 4	15:00	15:00			30:00
Module 10: Practices of collective farming and creating farmer groups	15:00	15:00			30:00
AGR/N9903 – Maintain Health and safety at the workplace NOS Version No. 1.0 NSQF Level 4	15:00	15:00			30:00
Module 11: Know-how of maintaining health and safety at the work place	15:00	15:00			30:00
DGT/VSQ/N0102 Employability Skills NOS Version-1.0 NSQF Level-4	60:00	00:00			60:00
Module 12: Employability Skills	60:00	00:00			60:00
Total Duration	180:00	180:00			360:00
OJT (Recommended): 30 hours					

Module Details

Module 1: Introduction to the role of a Dairy Farmer/Entrepreneur

Bridge Module

Terminal Outcomes:

- Discuss the roles and responsibilities of Dairy Farmer/Entrepreneur

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 Dairy Industry and its market • Discuss the role and responsibilities of a Dairy Farmer/Entrepreneur • Identify various employment/business opportunities for a Dairy Farmer/Entrepreneur • Explain the process of milk procurement • Discuss the concept of clean and antibiotic free milk • Explain the opportunities and challenges in dairy business • List types of synthetic milk and its effects on human health • Explain emerging dimension for dairy business (viz. market technology and innovation) 	
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	

Module 2: Process of preparing and maintaining livestock accommodation

Mapped to AGR/N4101 v2.0

Terminal Outcomes:

- Describe the process of preparing and maintaining the Livestock Accommodation

Duration: 10:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Describe the accommodation needs of livestock Explain the different types of accommodation- Head-to-Head, Tail to tail Describe the best balance between animal health and well-being and available resources Describe the cleaning routine Describe the process of waste segregation and waste management 	<ul style="list-style-type: none"> Demonstrate preparing animal accommodation which achieves the best balance between animal health and well-being Show how to prepare and maintain equipment, tools and materials required for livestock accommodation Demonstrate maintaining accommodation in a safe and clean condition for livestock Demonstrate replenishing materials and supplies as required by livestock Show how to clean tools and equipment and maintain according to established workplace procedures
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Cattle Shed	

Module 3: Process of establishing and monitoring livestock within accommodation

Mapped to AGR/N4102 v2.0

Terminal Outcomes:

- Demonstrate how to establish and monitor livestock within accommodation

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the appropriate livestock accommodations required for each type of animal • Enlist the materials (e.g. bedding) and environmental conditions which animals need within their accommodation to maintain their health and well-being • Explain the different factors which should be taken into account when preparing accommodation in a safe, secure and clean state • Explain the safety procedures to be followed 	<ul style="list-style-type: none"> • Show how to check the suitable environment condition of the accommodation before establishing livestock within it • Demonstrate handling and moving the livestock correctly and safely • Show how to introduce livestock into the accommodation in a way that minimizes stress and maintains their health and welfare • Show how to monitor environmental conditions carefully to ensure that they promote • Demonstrate arranging for regular cleaning of animal housing areas, floors and mats of animals (if any) according to the animal accommodation and specification
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Cattle Shed	

Module 4: Process of preparing feed for Livestock

Mapped to AGR/N4103 v2.0

Terminal Outcomes:

- Describe the process to prepare feed for livestock
- Demonstrate supplying feed and water to livestock

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the feed composition and quality • Enlist the nutrients requirement for animals • Explain the correct methods for supplying feed and maintaining adequate levels • Describe the methods of cleaning and maintaining feeding and watering equipment in a fit condition • Explain the importance of ensuring all livestock have access to feed and water • Explain the importance of following health, hygiene, safety and quality standards • Describe the signs of possible pest infection and necessary actions to control • Describe the Feeding Chart and process of feed storage 	<ul style="list-style-type: none"> • Show how to mix the appropriate proportions of feed and feed supplements depending on the age and stage of growth of animal • Demonstrate preparing the correct amount of animal feed as directed in the Feeding Plan in a way that minimizes wastage • Show how to supply the feed and water to cattle • Demonstrate measures for the wastage minimization • Show how to monitor the condition of feed and water and take the appropriate action when problems occur • Show how to clean and maintain feed and water equipment according to established workplace procedures
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Feed Components	

Module 5: Know-how of maintaining healthy performance of livestock

Mapped to AGR/N4104 v2.0

Terminal Outcomes:

- Monitor the health and well-being of livestock

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the parameters of healthy animal and characteristics of different species • Describe the preventive care for maintaining the health and well-being of animals • Explain the significance of expiry dates on drugs and medications • Describe the associated hazards and risks to animal and staff during animal related operations • Explain the importance of personal hygiene and safety precautions • Explain relevant legislation, standards and policies • Describe the correct method of waste segregation and waste disposal in eco-friendly way 	<ul style="list-style-type: none"> • Demonstrate monitoring the physical condition of the animals at suitable intervals, and recognize, record and report any abnormal signs • Show how to inspect the animal for the presence of any parasite • Demonstrate maintaining the record of health check-up of the animal and treatment provided • Show how to administer drugs and medication according to veterinary instructions • Show how to identify a health emergency and correct actions to be taken
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	

Module 6: Practices for good hand and machine milking

Mapped to AGR/N4105 v2.0

Terminal Outcomes:

- Describe the process of procuring and sourcing feed for livestock

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Explain the feed quality and composition required for feeding animals at different stages Describe the feed composition and quality Explain the arrangement for various feed and feed supplements essential for animal nutrition and growth Describe assessment of the quality and stock level of feed regularly Explain the fodder cultivation schedule and sourcing of fodder 	<ul style="list-style-type: none"> Demonstrate the identification and procurement of the inputs required for the feed preparation Demonstrate the arrangement for various feed and feed supplements essential for animal nutrition and growth Show how to monitor the condition of feed and water and take the appropriate action when problems occur Show how to follow supplier/expert's recommendations and workplace norms for feed storage
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Milking Machine, Hot Water	

Module 7: Process of Forage Conservation

Mapped to AGR/N4106 v2.0

Terminal Outcomes:

- Describe the activities of fodder conservation

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Describe the method of hay making, silage preparation and treatment of straw Describe the different methods of storing the forage Describe the various types and functions of equipment and machinery used in silage and haymaking Describe about common weeds, pests and diseases associated with crops and pastures Describe about the environmental and climate risks and impact on forage conservation Describe the measures to minimize risk of spoilage and combustion during storage Describe the correct method of waste segregation and waste disposal in eco-friendly way 	<ul style="list-style-type: none"> Show how to identify and use the tools and equipment for preparation of forage Demonstrate preparation of forage conservation machinery and equipment according to the standards Demonstrate preparation of storage facility for selected forage conservation method Show how to identify dry matter target and assess dry matter content of forage material for the forage operation Demonstrate disposal of all waste and debris to minimize environmental impacts. Show how to clean and service machinery and ancillary equipment according to the standards
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Forage	

Module 8: Practices of Breed improvement of livestock

Mapped to AGR/N4114 v1.0

Terminal Outcomes:

- Describe practices of breed improvement and reproductive performance of livestock

Duration: 15:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Explain relevant legislation, standards, policies and procedures in the workplace Describe breed improvement methods and their suitability for different animals Describe the various factors which influence the breeding efficiency Explain various factors affecting the reproductive performance of animals Describe various materials and equipment required in the process Describe potential hazards related to the reproduction and well-being of animals caused by humans or other animals Explain the measures to ensure hygiene and sanitation standards 	<ul style="list-style-type: none"> Show how to choose appropriate breed improvement program Demonstrate adapting suitable measures for insemination of animals Demonstrate identification of heat in animals, heat cycles and symptoms Show how to schedule insemination for animals in heat Demonstrate storage of semen as per prescribed guidelines
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Cattle shed, Lab	

Module 9: Process of planning, budgeting and marketing

Mapped to AGR/N4107 v2.0

Terminal Outcomes:

- Demonstrate the business activities of dairy farm
- Describe the process of planning the dairy enterprise/ business.
- Describe the process of managing the dairy production process.
- Describe the process of managing the post-production and marketing processes.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain how to analyse the demand and supply of the relevant dairy produce 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 dairy entrepreneurship/ business opportunities. • Explain how to prepare a basic business plan for dairy entrepreneurship/business activities. • State the appropriate sources of funding for the dairy 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 dairy production • Describe the process of planning dairy production and the use of relevant technologies to enhance production • Explain the importance of ensuring 	<ul style="list-style-type: none"> • Demonstrate how to analyse the demand and supply of the relevant dairy produce in the market. • Prepare a sample basic business plan for dairy 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.

<p>no cause adverse impact on the environment and produce during production</p> <ul style="list-style-type: none"> • 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 dairy 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 dairy 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 dairy produce. • Describe the process of selecting appropriate marketing channels for marketing dairy produce, and the applicable requirements and constraints. • List the relevant buyers of different types of dairy produce. • Explain how to identify and manage various risks to production and post-production processes. • Explain how to undertake outreach programs to promote dairy products and services, and expand agri-business. • 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. 	
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<ul style="list-style-type: none"> • 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. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>NA</p>	

Module 10: Practices of collective farming and creating farmer groups

Mapped to AGR/N4121 v1.0

Terminal Outcomes:

- Demonstrate creating the different farmer groups
- Describe the activities of collective dairy farming

Duration: 15:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the process of forming PG/FIG/SHG, their management, and operation • Describe the various laws and regulation regarding PG/FIG/SHG • Describe the importance of organizing the meetings and training of PG/FIG/SHG • Describe the process of group’s credit facility and the concept of group owned bank • Enlist core collective farming activities • Explain the concept and benefits of forward and backward linkages • Explain the benefits of value addition 	<ul style="list-style-type: none"> • Demonstrate creating PG/FIG/SHG of milk producers • Show how to plan for optimal milk production to fulfil the market and household food security needs • Demonstrate organizing of capacity building programs • Demonstrate arranging the equipment for milk weighment, testing and payment processing • Demonstrate various collective farming activities • Show how to expand the network of the group • Show how to assist farmer in forming forward and backward linkages
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	

Module 11: know-how of maintaining Health and safety at the work place

Mapped to AGR/N9903 v3.0

Terminal Outcomes:

- Demonstrate the process of maintaining the operations of service & maintenance of farm equipment

Duration: 15:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the risks to health and safety and the measures to be taken to control those risks in your area of work • Enlist the workplace procedures and requirements for the treatment of workplace injuries/illnesses • Describe basic emergency first aid procedure 	<ul style="list-style-type: none"> • Show how to maintain a clean & efficient workplace • Demonstrate taking appropriate emergency procedures • Demonstrate practices of general safety and first aid • Show how to identify and use all protective clothing and safety gears like safety belt, helmet, mask, goggles etc. while executing work like spraying insecticides and pesticides • Show how to apply the instructions as told while using the tools and equipment
Classroom Aids:	
Laptop, White Board, Marker, Projector	
Tools, Equipment and Other Requirements	
Personal Protective Equipment Like: Helmet / Head Gear, Safety Gloves, Safety Boots, First Aid Kit: Bandages, Adhesive Bandages, Betadine Solution / Ointment, Pain Relief Spray / Ointment, Antiseptic Liquid; Antidote, Phone Directory, Search Lights, Fire Extinguisher, Vacuum Cleaner, Dust Pins, Sanitizers	

Module 12: 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

Module 13: On-the-Job Training

Mapped to Dairy Farmer/Entrepreneur

Mandatory Duration: 00:00	Recommended Duration: 30:00
Location: On Site	
<p>Terminal Outcomes</p> <ul style="list-style-type: none"> • Show how to Communicate effectively at the workplace with internal and external stakeholders • Show how to prepare and maintain livestock accommodation • Show how to prepare the feed and maintain feed and water supply • Demonstrate how to perform Hand and Machine Milking • Carry out commercial activities such as buying and selling dairy related products using the appropriate e-commerce platforms or from authorized vendor • Demonstrate various methods of Forage Conservation • Explain formation and operation of collective dairy farming/activity • Process payments using the relevant e-payment method. • Prepare training schedule for an apprentice. • Explain the requirements of personal health, hygiene and fitness at work. • Discuss the industry recommended practices for the safe utilization of dairy products • Implement the practices related to gender and PwD sensitization. 	

Annexure

Trainer Requirements

Minimum Educational Qualification of the Trainer	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
12th Class		3	Dairy Management	0		Dairy farm supervisor with 3 Years' experience of working with registered Corporates or Not for Profit Organizations after 12th Pass
Certificate	Regular VLDA (Veterinary livestock development assistant)	3	Dairy Management	0		
Diploma	veterinary /Animal Husbandry / Dairying	3	Dairy Management	0		Regular Diploma more than 15 months in veterinary /Animal Husbandry / Dairying
Graduate	Agriculture	2	Dairy Management	0		For the school Program minimum qualification of the Trainer should be Graduate(Agriculture/ Zoology/Dairy) with minimum 3 years Teaching experience (will be considered industry experience)
B. V. Sc.		0		0		
Graduate	Dairy Science/ Dairy Technology	0		0		
Trainer Certification						
Domain Certification				Platform Certification		
Certified for Job Role: "Dairy Farmer/ Entrepreneur" mapped to QP: "AGR/Q4101, v2.0". Minimum accepted score is 80%				Certified for the Job Role: "Trainer (Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2601 v2.0". Minimum accepted score is 80%		

Assessor Requirements

Assessor Prerequisites - Dairy Farmer/ Entrepreneur						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
12th Pass	Science	7	In Dairy Science/Animal Science/Veterinary Science or related experience	0		Ex. Army Personnel - Minimum 12th Pass (PCM/PCB stream)/ Diploma
B. V. Sc.		4	In Dairy Science/Animal Science/Veterinary Science or related streams	0		Practical skills and knowledge required to care for dairy animals and hands-on experience in dairy farm operations
B. V. Sc.		4	In Dairy Science/Animal Science/Veterinary Science or related experience	0		Practical skills and knowledge required to care for dairy animals and hands-on experience in dairy farm operations
B.Sc	Animal Sciences/ Dairy Science/ Dairy Technology	5	In Dairy Science/Animal Science/Veterinary Science or related experience	0		Practical skills and knowledge required to care for dairy animals and hands-on experience in dairy farm operations
M. V. Sc		2	In Dairy Science/Animal Science/Veterinary Science or related experience	0		Practical skills and knowledge required to care for dairy animals and hands-on experience in dairy farm operations
M Sc	Animal Sciences/ Dairy Science/ Dairy Technology	2	In Dairy Science/Animal Science/Veterinary Science or related experience	0		Practical skills and knowledge required to care for dairy animals and hands-on experience in dairy farm operations
Assessor Certification						
Domain Certification				Platform Certification		
Certified for Job Role: "Dairy Farmer/ Entrepreneur" mapped to QP: "AGR/Q4101, v2.0". Minimum accepted score is 80%				Certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701, v2.0", with a minimum score of 80%.		

Assessment Strategy

Assessment System Overview

In Agriculture Sector it is of ultimate importance that individuals dealing with crop production or livestock have the requisite knowledge and competencies to undertake the task. Based on the Assessment Criteria, SSC in association with empaneled AAs, define the test structure for the given job roles to cover the required skills and competencies. Assessment strategy consists of the following:

1. Multiple Choice Questions: To assess basic knowledge (Objective/Subjective)
2. Viva: To assess awareness on processes (Oral and/or written questioning)
3. Practical: To evaluate skills and identify competencies. (Observation)

Assessments for knowledge and awareness on processes may be conducted through 'real-time' internet-based evaluation or by conducting the same 'offline' through TABs. Skills and competencies are to be assessed by conducting 'practical' on the ground through qualified and ToA certified assessors.

An individual must have adequate knowledge and skills to perform a specific task, weightage for different aspects of the assessment is given as follows:

- Multiple Choice Questions: 20%-30%, depending on the specific QP
- Viva: 20%
- Practical: 50% - 60% (Involves demonstrations of applications and presentations of procedures/tasks and other components)
- Assessment will be carried out by certified assessors through 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 are 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 is 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

- Assessment checklist for assessor
- Candidate Aadhar/ID card verification
- Pictures of the classroom, labs to check the availability of adequate equipment's and tools 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 the assessor and proctor are 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 candidates 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	The 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	The 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
FIG	Farmers Interest Groups
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
PG	Producers Group
PoP	Package of Practices
PwD	People with Disability
PPE	Personal Protective Equipment
QP	Qualifications Pack
SHG	Self-Help Groups