Syllabus For Organic Milk Producer

Course Name	Organic Milk Producer
Sector	Food Processing
Course Code	FPT/2024/ORMP/341
Level	3
Occupation	Organic Milk Producer
Job Description	The candidate will be responsible for managing and overseeing all aspects of organic milk production, including the care and well-being of dairy cows, ensuring compliance with organic farming standards and implementing sustainable and environmentally friendly practices. The Organic Milk Producer will be tasked with overseeing the entire production process, from milking to packaging and maintaining high standards of quality and hygiene.
Course Duration	**Total Duration 390 Hrs (T-90, P-180, OJT-60 and ES-60)**
Trainees' Entry Qualification	Grade 10 OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR 5th grade pass with 5 years relevant experience 0R Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
Trainers Qualification	BVSc & AH (Veterinary Science & Animal Husbandry) with 3 years experience in relevant field OR MVSc with one year experience in the relevant field OR B Tech (Dairy Technology/Food Technology) with 2 years experience in relevant field OR M Sc (Agriculture & Rural Development), with 1 years experience in relevant field OR B Sc. (Agriculture / Horticulture /Botany / Forestry) with 3 years experience in relevant field OR Any graduate with 3 years of relevant experience OR 10+2 with 5 years of relevant experience in the relevant field.

Structure of Course:

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
1	**Plan for organic milk production**	Produce Organic Milk & Milk Products using scientific animal husbandry practices.	Compulsory	10	20		30
2	**Feeding Management under Organic Milk Production**	Illustrate feeding management system of organic milk production	Compulsory	10	20		30
3	**Soil, Pest and Disease Management for Crop and Green Fodder Cultivation**	Describe the procedure of Soil, Pest and Disease management for Crop and Green Fodder Cultivation	Compulsory	20	40		60
4	**Animal Health Management and Ethno-veterinary formulations**	Assist to Manage low cost animal health care, disease control, treatment and management as per organic principles	Compulsory	20	40		60
5	**Clean Milk Production Practices**	Demonstrate Hygienic milking, handling, chilling, testing, storage and processing of organic milk	Compulsory	10	20		30
6	**Organic Certification and Marketing aspects of Organic Milk**	Explain Organic Certification and Marketing of Organic Milk	Compulsory	10	20		30
7	**Health and Safety at the work place**	Maintain Health and Safety standard, hygiene and sanitation in milk production unit	Compulsory	10	20	--	30
8	**OJT**	Work in real job situation with special emphasis on basic safety and	Compulsory	--	--	60	6**0**

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
		hazards in this domain (OJT).					
9	**Employability Skill**	As per guided curriculum	Compulsory	60	--	--	6**0**
		TOTAL:		**150**	**180**	**60**	**390**

SYLLABUS:

Module No. 1: Plan for organic milk production

Outcome: Produce Organic Milk & Milk Products using scientific animal husbandry practices.

Content:

- Role of Organic Milk Producer
- Scopes and Opportunities of Organic Livestock Farming and Organic Milk Production
- Study the Need of Organic Farming in India
- Milk type and its composition
- Differences between conventional milk and organic milk
- Detrimental effects of unsafe milk production & processing practices on health and environment
- Different kinds of safe milk production practices and their characteristics
- Core principles of organic milk production
- Effects of organic milk production on costs and revenue
- Time and effort required for transition from conventional milk production to organic milk production
- Phase of transition to organic milk production and organic farming
- Scientific cattle rearing and good animal husbandry practices based on organic principles
- Correlation between organic feeding of cattle and organic agriculture
- Use of cow urine, cow dung in organic farming
- Basics of organic farming, soil fertility, natural immunity system, seasonal effects on crops and fodders
- Identification of cattle breeds suitable for organic milk production
- Formation of seasonal crop-calendar and fodder cycle

Module No. 2: Feeding Management under Organic Milk Production

Outcome: Illustrate feeding management system of organic milk production

Content:

- Importance of balanced cattle feeding
- Basics of correlation between organic feed ingredients and organic milk production
- Major nutritive values (carbohydrate, protein, fat) of feed ingredients
- Identification of various locally available crop varieties suitable for cattle feed ingredients like Paddy, Pulses, Oil Seeds and Leafy Vegetables

- Preparation of Home-made Balanced Cattle Feed
- Importance of green fodder and dry fodder
- Selection of various green fodder compliant with the climate and soil type
- Planning of fodder calendar for availability of green fodder throughout the year
- Importance of green fodder conservation and usage
- Preparation Silage and Hay as fodder conservation
- Ensure the crop, fodder seed or planting material is not genetically modified or chemically treated
- Benefits of Azolla cultivation and methodology
- Importance of Mineral Mixture on cattle health and milk production
- Identification of vendors for authentic organic seed or planting material, Mineral Mixture supply
- Daily feed requirement of a pregnant & lactating cattle in connection with milk production

Module No. 3: Soil, Pest and Disease Management for Crop and Green Fodder Cultivation

Outcome: Describe the procedure of Soil, Pest and Disease management for Crop and Green Fodder Cultivation

Content:

- Importance of top soil in organic cultivation
- Land preparation for crops like Paddy, Pulses, Oil Seeds and Leafy Vegetables and fodder as per Crop Calendar
- Identification of various methods of activating microbial activity in top soil
- Preparation of various organic inputs that can increase soil microbial activity
- Soil activating inputs effectively
- Soil test data for soil amendment and manuring
- Identification of methods adopted in organic farming for building organic matter in soil
- Use of Farm Yard Manure and mineral fortified compost
- Preparation of dung-urine slurries and biogas slurries
- Preparation of biodynamic inputs/compost (BD 500, BD 501, Cow Pat Pit etc.)
- use of bio-fungicides and plant-associated Pseudomonas in increasing plant disease resistance
- Preparation of Casuarina extract as bio-fungicide and liquid manure with cow urine and leaf extracts for disease control
- Use Pheromone Trap and Yellow Stickers for pest control
- Identification of beneficial insects for pest control
- Implementation of various soil enhancement methods effectively:
  (a) Sanjivak, Jivamrth, Amritpani for microbial enrichment
  (b) vermicompost, vermiwash, panchagavy, cattle dung urine-slurry for growth promotion
  (c) Green manuring and biomass recycling
- Utilize and use of Bio-gas slurry by-products:
- PROM: Organic Manure + Rock Phosphate
- Root Guard: Bio Liquid + Root Premix
- MRL: Micro Nutrient Reach Liquid by adding Copper, Boron, Manganese, Ferrous, Zink
- Preparation of protocols for basal dose application & top dressing

Module No. 4: Animal Health Management and Ethno-veterinary formulations

Outcome: Assist to Manage low cost animal health care, disease control, treatment and management as per organic principles

Content:

Basics of animal health monitoring

Detrimental effects of indiscriminate use of antibiotics, chemical drugs in treating animals at field level

Organic principles in animal disease control, prophylaxis, treatment and management

Importance of ethno-veterinary formulations for important ailments of cattle for organic milk production

Ethno-veterinary formulations for important ailments in bovine-**Mastitis (all types)**

Ethno-veterinary formulations for important ailments in bovine- **Teat obstruction**

Ethno-veterinary formulations for important ailments in bovine- Udder Oedema**- Retention of Placenta**

Ethno-veterinary formulations for important ailments in bovine- **Repeat breeding**

Ethno-veterinary formulations for important ailments in bovine- **Prolapse**

Ethno-veterinary formulations for important ailments in bovine- **FMD mouth lesions**

Ethno-veterinary formulations for important ailments in bovine**- FMD foot lesions/wound**

Ethno-veterinary formulations for important ailments in bovine**- Fever**

Ethno-veterinary formulations for important ailments in bovine- **Diarrhoea**

Ethno-veterinary formulations for important ailments in bovine- **Bloat and Indigestion**

Ethno-veterinary formulations for important ailments in bovine- **Worms**

Ethno-veterinary formulations for important ailments in bovine- **Tick/Ectoparasites**

Ethno-veterinary formulations for important ailments in bovine- **Pox/wart/cracks**

Identification of various worm, virus, bacteria, protozoa and their harmful effects on animal health

Regular vaccination and deworming of cattle maintaining organic principles

Module No. 5: Clean Milk Production Practices

Outcome: Demonstrate Hygienic milking, handling, chilling, testing, storage and processing of organic milk

Content:

- Clean Milk Production Practices in Organic Milk Production
- Basics of healthy dairy livestock
- Cleanliness of lactating cattle
- Scientific method of milking
- pros and cons of machine milking
- Cleaning of utensils to be used for milking, storage
- Cleanliness of cattle shed and its premises, fly control
- Milker's cleanliness and personal hygiene and disease-free health condition
- Necessity of cold-chain maintenance, acidity control and self-life of milk
- Procedure of milk chilling at field level
- Performance of various types of Milk Chilling Machines
- Detrimental effects of milk adulteration
- Identification of procedures to detect common milk adulterants

Module No. 6: Organic Certification and Marketing aspects of Organic Milk

Outcome: Explain Organic Certification and Marketing of Organic Milk

Content:

- Third-party organic certification for organic milk and milk products
- Identification of procedure and timeline for applying for certification
- Quality checks (one time and recurring) for obtaining and maintaining certification
- Selection of organic certification body (CB) and get an information pack
- Study the organic standards in detail for every aspects of production, procurement, processing and sale
- Requirements and procedure for formation of a Grower Group for Livestock
- Formation of internal control system (ICS) and its role and responsibilities
- Qualification and experience of ICS Staffs
- Registration of grower groups under ICS
- Operating documents required for certification
- Maintaining of day to day farming, animal health care, management, feeding, milking details in Farm Diary
- Study internal procedures-buying, storage, processing, handling
- Study internal inspections & internal approval
- External on-farm inspections, inspection procedure like examination of records etc. by CB
- Comply to non-compliance, if any raised by CB
- Understand Scope Certificate
- Understand the process of production for traceability
- Understand documentation for traceability
- Understand Transaction Certificates for sale
- Understand fees structure and expenses for CB and organic certification and its renewal
- Cost and revenue analysis of organic milk production
- Market demand and consumers choice regarding organic milk and milk products
- Pricing details in accordance with the market
- Farm-level value addition and product diversification
- Collective marketing through formation of Dairy Cooperative Societies, Farmers' Groups
- Benefits, modus operandi, future development scopes, assistance towards marketing through Dairy Cooperative Societies and District Milk Unions
- Understand need of branding and promotion for marketing
- labelling, packaging of organic produce as per CB guidelines

- Identification of major channels for sales of organic milk and milk products in and around nearby city
- Identification of B2B buyers for bulk selling
- Techniques of consumer awareness of organic produce
- Associate with local organic selling points, haats
- Associate with Shopping Malls, e-commerce platforms

Module No. 7: Health and Safety at the work place

Outcome: Maintain Health and Safety standard, hygiene and sanitation in milk production unit

Theory Content:

- Basic safety checks before operation of all machinery and vehicles and hazards are reported to the appropriate supervisor
- Work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.

- Describe procedure of personal hygiene by use of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.
- Read and understand the hazards of use and contamination mentioned on the labels of pesticides/fumigants etc.
- Assess risks prior to performing manual handling jobs, and work according to currently recommended safe practice.
- Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency
- Follow emergency procedures to company standard / workplace requirements

Practical Content:

- Apply food safety and hygiene procedures followed in an organization
- Use equipment and materials safely and correctly and return the same to designated storage when not in use
- Dispose of waste safely and correctly in a designated area
- Recognise risks to bystanders and take action to reduce risk associated with jobs in the workplace
- Perform your work in a manner which minimizes environmental damage all procedures and work instructions for controlling risk are followed closely
- Report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger
- Use emergency equipment in accordance with manufacturers' specifications and workplace requirements
- Provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques
- Recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- Report details of first aid administered in accordance with workplace procedures.

Module 8: OJT

Outcome: Work in real job situation with special emphasis on basic safety and hazards in this domain

Practical Content:

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)

Module 9: Employability Skills **(60 Hrs)**

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 analyzing 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

Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Produce Organic Milk & Milk Products using scientific animal husbandry practices.	**After completion of this module students will be able to:** 1.1 Explain the role of organic milk producer 1.2 Identify and capitalize on emerging trends and demands in organic milk production 1.3 Identify different types of milk and their respective compositions 1.4 Comprehend between conventional and organic milk production 1.5 Describe the effect of negative impacts of unsafe milk production on both human health and the environment 1.6 Demonstrate different kinds of safe milk production practices 1.7 Plan and manage the transition process from conventional to organic milk production 1.8 Describe the utilization of cow urine and dung in organic farming for enhancing soil fertility 1.9 Identify and select cattle breeds that are well suited for organic milk production
2	Illustrate feeding management system of organic milk production	**After completion of this module students will be able to:** 2.1 Explain the role balanced feeding play in maintaining optimal health and productivity in cattle. 2.2 Identify the fundamental correlation between the selection of organic feed ingredients and enhancement of organic milk production 2.3 Find the key nutritive values, including carbohydrates, proteins and fats in various organic feed ingredients 2.4 Select region specific crop varieties suitable for organic cattle feed 2.5 Prepare a well balanced organic cattle feed using locally available ingredients 2.6 Plan and creat a comprehensive fodder calendar to ensure a consistent supply of green fodder throughout the year 2.7 Prepare silage and hay as effective methods for conserving fodder 2.8 Articulate the benefits of Azolla cultivation in cattle feed and demonstrate the appropriate methodologies for its cultivation 2.9 Identify reliable vendors for authentic organic seeds, planting materials and mineral mixture supply

Module No.	Outcome	Assessment Criteria
3	Describe the procedure of Soil, Pest and Disease management for Crop and Green Fodder Cultivation	**After completion of this module students will be able to:** 3.1 Explain the critical roles of topsoil in organic cultivation 3.2 Implement appropriate land preparation techniques for different crops and fodder based on a crop calendar 3.3 Demonstrate various methods for activating microbial activity in the topsoil, understanding their role in promoting soil fertility. 3.4 Prepare organic inputs that effectively enhance microbial activity in the soil. 3.5 Identify and analyze soil test data to make informed decisions regarding soil amendment and manuring practices in organic cultivation. 3.6 Prepare dung-urine slurries and biogas slurries for soil enrichment in organic farming. 3.7 Identify and demonstrate the effective use of bio-fungicides and plant-associated Pseudomonas to enhance plant disease resistance in organic farming. 3.8 Demonstrate the implementation of soil enhancement methods, including Sanjivak, Jivamrth, Amritpani for microbial enrichment, vermicompost, vermiwash, panchagavy, cattle dung urine-slurry for growth promotion, and green manuring/biomass recycling. 3.9 Articulate protocols for the application of basal doses and top dressing in organic cultivation, ensuring systematic and effective implementation.
4	Assist to Manage low cost animal health care, disease control, treatment and management as per organic principles	**After completion of this module students will be able to:** 4.1 Identify key parameters and demonstrate the fundamental techniques for monitoring the health of animals in an organic farming setting. 4.2 Explain the effects resulting from the inappropriate use of antibiotics and chemical drugs on animals at the field level. 4.3 Articulate the application of organic principles in the control, prevention, treatment, and management of diseases in animals. 4.4 Identify the use of ethno-veterinary formulations for treating teat obstruction in bovines. 4.5 Describe the application of ethno-veterinary formulations for treating foot and mouth disease (FMD) mouth lesions in bovines. 4.6 Demonstrate the application of ethno-veterinary formulations for treating pox, warts, and cracks in bovines.

Module No.	Outcome	Assessment Criteria
		4.7 Identify different types of worms, viruses, bacteria, and protozoa, along with their harmful effects on animal health.
5	Demonstrate Hygienic milking, handling, chilling, testing, storage and processing of organic milk	**After completion of this module students will be able to:** 5.1 Identify the key principles of clean milk production in accordance with organic standards. 5.2 Explain the fundamental principles of maintaining healthy dairy livestock in an organic milk production system. 5.3 Assess and ensure the cleanliness of lactating cattle, demonstrating proper hygiene practices. 5.4 Describe the scientific and hygienic approach to the milking process, emphasizing best practices for optimal milk quality. 5.5 Demonstrate the proper cleaning procedures for utensils used in milking and storage, ensuring hygiene and quality preservation. 5.6 Implement cleanliness measures for cattle sheds and surrounding areas, including effective fly control practices. 5.7 Demonstrate the correct procedures for chilling milk at the field level, ensuring quality preservation. 5.8 Describe the negative consequences of milk adulteration on both consumer health and the integrity of organic milk production. 5.9 Identify and test for common milk adulterants, ensuring the purity of organic milk.
6	Explain Organic Certification and Marketing of Organic Milk	**After completion of this module students will be able to:** 6.1 Identify and select the steps involved in obtaining third-party organic certification for both organic milk and milk products. 6.2 Identify and follow the prescribed procedure and timeline for the application of organic certification. 6.3 Comply with the quality checks required for the initial certification and recurring checks to maintain the organic certification status. 6.4 Explain the registration process for grower groups under the Internal Control System. 6.5 Maintain the necessary operating documents required for the organic certification process. 6.6 Explain the processes involved in internal inspections and obtaining internal approvals within the certification framework. 6.7 Address and comply with any non-compliance issues raised by the certification body
7	Maintain Health and Safety standard, hygiene and sanitation in milk production unit	**After completion of this module students will be able to:** 7.1 Describe the procedure to safely and correctly use equipment and materials, ensuring proper return to designated storage when not in use. 7.2 Dispose of waste safely and correctly in designated areas, following established procedures.

Module No.	Outcome	Assessment Criteria
		7.3 Recognize and mitigate risks to bystanders associated with workplace tasks, taking appropriate action to reduce potential dangers. 7.4 Report accidents, incidents, or problems promptly to the appropriate person and take immediate action to reduce further danger. 7.5 Provide first aid treatment appropriate to the patient's injuries, following recognized first aid techniques. 7.6 Report details of first aid administered in accordance with workplace procedures, ensuring accurate documentation and communication.
8	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).
9	Employability Skills	As per guided curriculum

List of Tools, Equipment & materials needed for 30 Trainees (Practical)

Sl. No.	Item	Quantity
1.	Laptop	1
2.	White board	1
3.	Marker	As required
4.	Projector	1
6.	Automatic Milk Collection Unit (AMCU)	1
7.	Bio fertilizer	As required
8.	Bio pesticides	As required
9.	Cattle feed ingredients	As required
10.	Silage making fodder	1
11.	Azolla seed	As required
12.	Tarpaulin	As required
17.	Spade	2
18	Mineral Mixtuer	1

19	Soil testing tool kit	1
20	Live animal	1
21	Bio-inputs	As required
22	SS Milk Pail and SS Milk Can,	1 each
23	Potassium Permanganate	As required
24	Bulk Milk Cooler	1
25	Milk Can Chiller	1
26	Milk Adulteration Testing Kit	1
27	First aid kit	1
28	PPE kit	30
29	Plough	2
30	Nose mask	30
31	Broadband connectivity	1
32	Pheromone Trap	1

Marks Distribution

outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Produce Organic Milk & Milk Products using scientific animal husbandry practices.	FPT/1110/OC1	20	80	0
Illustrate feeding management system of organic milk production	FPT/1110/OC2	20	80	0
Describe the procedure of Soil, Pest and Disease management for Crop and Green Fodder Cultivation	FPT/1110/OC3	30	130	0
Assist to Manage low cost animal health care, disease control, treatment and management as per organic principles	FPT/1110/OC4	30	130	0
Demonstrate Hygienic milking, handling, chilling, testing, storage and processing of organic milk	FPT/1110/OC5	20	80	0
Explain Organic Certification and Marketing of Organic Milk	FPT/1110/OC6	20	80	0
Maintain Health and Safety standard, hygiene and sanitation in milk production unit	FPT/1110/OC7	10	70	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	FPT/1110/OC8	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0