



# Model Curriculum

**QP Name: Butter and Ghee Processing Operator**

**QP Code: FIC/Q2003**

**QP Version: 1.0**

**NSQF Level: 4**

**Model Curriculum Version: 1.0**

Food Industry Capacity and Skill Initiative (FICSI)  
Shriram Bharatiya Kala Kendra (3rd Floor)  
1, Copernicus Marg, New Delhi 110001  
Phone: 9711260230

# Table of Contents

Training Parameters.....	3
Program Overview .....	5
This section summarizes the end objectives of the program along with its duration.....	5
Training Outcomes.....	5
Compulsory Modules .....	5
Module Details.....	7
Module 1: Introduction to the training program.....	7
<i>Bridge Module</i> .....	7
Module 2: Professional and Core Skills.....	8
Module 3: Prepare and maintain work area and process machineries.....	9
Module 4: Food Microbiology.....	11
Module 5: Preparation for production of butter .....	12
Module 6: Prepare for production of ghee.....	14
Module 7: Production of Butter.....	15
Module 8: Production of Ghee .....	16
Module 9: Complete documentation and record keeping .....	17
Module 10: IT orientation .....	18
Module 11: Ensuring food safety, personal hygiene and workplace sanitation.....	19
<i>Mapped to FIC/N9001, v 1.0</i> .....	19
Module 12: Employability and Entrepreneurship skills .....	20
Annexure.....	22
Trainer Requirements .....	22
Assessor Requirements.....	23
Assessment Strategy .....	24
Glossary.....	25
Acronyms and Abbreviations.....	26

## Training Parameters

<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Dairy Products
<b>Occupation</b>	Processing
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2004/7413.30
<b>Minimum Educational Qualification and Experience</b>	1. Class 10th passed 2. Class 8th passed and 2 years of relevant experience
<b>Pre-Requisite License or Training</b>	1. Food standards and regulations 2. Operating different types of dairy processing equipment 3. Packaging technology 4. GMP 5. HACCP 6. QMS 7. Computer basics and ERP system followed by the organization 8. Training in Food Safety Standards and Regulations (as per FSSAI) (Mandatory)
<b>Minimum Job Entry Age</b>	18 years
<b>Last Reviewed On</b>	04-09-2018
<b>Next Review Date</b>	31-05-2024
<b>NSQC Approval Date</b>	
<b>QP Version</b>	1.0

<b>Model Curriculum Creation Date</b>	04-09-2018
<b>Model Curriculum Valid Up to Date</b>	31-05-2024
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	320 Hours
<b>Maximum Duration of the Course</b>	320 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 participants will be able to:

- Maintain work area and process machineries for butter and ghee production
- Prepare for production of butter and ghee
- Produce butter and ghee
- Document and maintain records related to butter and ghee production
- Apply food safety, hygiene and sanitation while processing food products

### 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
<b>Introduction to the sector and the job</b>	<b>43:00 Hours</b>	<b>19:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>62:00 Hours</b>
Module 1: Introduction to the training program	05:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	05:00 Hours
Module 2: Professional and Core Skills	10:00 Hours	07:00 Hours	00:00 Hours	00:00 Hours	17:00 Hours
Module 12: Employability and Entrepreneurship skills	28:00 Hours	12:00 Hours	00:00 Hours	00:00 Hours	40:00 Hours
<b>FIC/N2009: Prepare and maintain work area and process machineries for butter and ghee production NOS Version No.: 1.0 NSQF Level: 3</b>	<b>08:00 Hours</b>	<b>24:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>32:00 Hours</b>
Module 3: Prepare and maintain work area and process machineries	08:00 Hours	24:00 Hours	00:00 Hours	00:00 Hours	32:00 Hours
<b>FIC/N2010: Prepare for</b>	<b>27:00</b>	<b>59:00</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>86:00</b>

<b>production of butter and ghee NOS Version No.: 1.0 NSQF Level: 3</b>	<b>Hours</b>	<b>Hours</b>			<b>Hours</b>
Module 4: Food microbiology	05:00 Hours	17:00 Hours	00:00 Hours	00:00 Hours	22:00 Hours
Module 5: Preparation for production of butter	16:00 Hours	21:00 Hours	00:00 Hours	00:00 Hours	37:00 Hours
Module 6: Preparation for production of ghee	06:00 Hours	21:00 Hours	00:00 Hours	00:00 Hours	27:00 Hours
<b>FIC/N2011: - Produce butter and ghee NOS Version No.: 1.0 NSQF Level: 3</b>	<b>18:00 Hours</b>	<b>39:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>57:00 Hours</b>
Module7: Production of Butter	10:00 Hours	22:00 Hours	00:00 Hours	00:00 Hours	32:00 Hours
Module 8: Production of ghee	08:00 Hours	17:00 Hours	00:00 Hours	00:00 Hours	25:00 Hours
<b>FIC/N2012: Complete documentation and record keeping related to butter and ghee production NOS Version No.: 1.0 NSQF Level: 3</b>	<b>18:00 Hours</b>	<b>29:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>47:00 Hours</b>
Module 9: Complete documentation and record keeping	08:00 Hours	14:00 Hours	00:00 Hours	00:00 Hours	22:00 Hours
Module 10: IT Orientation	10:00 Hours	15:00 Hours	00:00 Hours	00:00 Hours	25:00 Hours
<b>FIC/N9001 Food safety, hygiene and sanitation for processing food products NOS Version No.: 1.0 NSQF Level: 3</b>	<b>07:00 Hours</b>	<b>29:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>36:00 Hours</b>
Module 11: Ensuring food safety, personal hygiene and workplace sanitation	07:00 Hours	29:00 Hours	00:00 Hours	00:00 Hours	36:00 Hours
<b>Total Duration</b>	<b>121 Hours</b>	<b>199 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>320 Hours</b>

## Module Details

### Module 1: Introduction to the training program

#### Bridge Module

##### Terminal Outcomes:

- Discuss the opportunities available for butter and ghee making technicians in food processing industry
- List the GMP and HACCP practices and FSSAI guidelines applicable in industrial baking

<b>Duration:</b> 05:00	<b>Duration:</b> 00:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the future trends and career growth opportunities available to butter and ghee making technicians in the food processing industry.</li> <li>• Summarise the key roles and responsibilities of a 'butter and ghee making technician'.</li> <li>• List the various terminologies used by butter and ghee making technician technicians in the food processing industry.</li> <li>• Discuss the role of organisational policies and procedures in the job.</li> <li>• List the sequence of tasks performed for butter and ghee making.</li> <li>• Discuss the impact of not following Good Manufacturing Practices (GMP), Hazard Critical Analysis and Control Points (HACCP) and Food Safety and Standards Authority of India (FSSAI) guidelines in producing butter and ghee.</li> </ul>	
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Nil	

## Module 2: Professional and Core Skills

### Bridge Module

#### Terminal Outcomes:

- Discuss the attributes of desirable professional behaviour
- Demonstrate the standard measures undertaken for working effectively

<b>Duration:</b> 10:00	<b>Duration:</b> 07:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Identify personal strengths and weaknesses.</li> <li>• Discuss the importance of work order in the process.</li> <li>• State the importance of decision making in the job.</li> <li>• State the importance of communicating effectively.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply standard practice to undertake a self-assessment test for identifying strengths and weaknesses.</li> <li>• Plan and prioritise tasks effectively to ensure timely completion.</li> <li>• Demonstrate the ways to analyse situations for identifying problems and making sound decision promptly.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Gloves, hair net, shoe cover, soap dispenser, hand sanitizer, ear plugs, masks, aprons/lab coats eye protection, hard hats, gloves, rubber boots, etc.	



## Module 3: Prepare and maintain work area and process machineries

### Mapped to FIC/N2009, v 1.0

#### Terminal Outcomes:

- Discuss the tasks to be performed to prepare for production of butter and ghee
- State the importance of maintaining tools and equipment effectively

<b>Duration:</b> 08:00	<b>Duration:</b> 24:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the materials and equipment used in the cleaning and maintenance of the work area</li> <li>• List the common detergents and sanitizers used in cleaning work area and machineries</li> <li>• Explain the properties of the cleaning agents used</li> <li>• Describe the methods of cleaning and sanitization</li> <li>• Explain the method of managing and disposing waste material</li> <li>• Describe the functions to be carried out before starting production</li> <li>• Explain the maintenance procedure to be followed before starting production</li> <li>• Explain the lubrication system followed in the dairy industry</li> <li>• Explain the different types of maintenance procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate CIP method of cleaning</li> <li>• Demonstrate SIP method of cleaning</li> <li>• Demonstrate the process of preparing the work area for scheduled production</li> <li>• Demonstrate how to use tools safely</li> <li>• Demonstrate the process of lubricating machineries</li> <li>• Perform minor repairs and faults in process machineries</li> <li>• Prepare the machines and tools required for production</li> <li>• Exhibit that the work area is safe and hygienic for food processing</li> <li>• Clean process machineries using recommended cleaning agents and sanitisers</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, Pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers,	

Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.

## Module 4: Food Microbiology

### Mapped to FIC/N2010 FIC/N2011, v 1.0

#### Terminal Outcomes:

- Discuss about food microbes and food preservation
- Describe methods to assess food quality

<b>Duration:</b> 05:00	<b>Duration:</b> 17:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the types of food microbes</li> <li>• Discuss the causes of food spoilage</li> <li>• Explain the need for food preservation</li> <li>• List different types of food preservation processes</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of food spoilage state the criteria to check food spoilage</li> <li>• Demonstrate the steps involved in the method of assessing the quality of produce based on physical parameters</li> <li>• Demonstrate the process of preserving the food</li> <li>• Perform testing of the given food sample for any contaminants and spoilage</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Nil	

## Module 5: Preparation for production of butter

### Mapped to FIC/N2010, v 1.0

#### Terminal Outcomes:

- Discuss the various methods used for producing cream
- Demonstrate the standard practices followed for production planning

Duration: 16:00	Duration: 21:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Describe the process of planning production sequence to maximize capacity utilization of resources</li> <li>• Explain the factors affecting operation efficiency during production</li> <li>• Explain the standard operating procedures followed in the dairy industry</li> <li>• List the ingredients required for production</li> <li>• Define butter</li> <li>• Explain the composition of butter</li> <li>• Explain the need for neutralization of cream</li> <li>• Discuss the importance of standardization of cream</li> <li>• Explain the various calculations required for standardization of cream</li> <li>• Explain the method of pasteurizing cream</li> <li>• List the different types of pasteurization methods</li> <li>• Discuss the method of ripening cream</li> <li>• Describe the method of cooling and ageing cream</li> <li>• Explain the method of churning cream</li> <li>• Describe the quantity and quality of salt to be added</li> <li>• Explain the method of adding salt</li> <li>• Explain the method of adjusting moisture</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of production planning.</li> <li>• Demonstrate how to calculate the process time for effective utilisation of machineries</li> <li>• Demonstrate the method of preparing cream for butter manufacturing</li> <li>• Show how to plan batch size considering full capacity utilisation of equipment</li> <li>• Show how to organise raw materials and equipment as per the production schedule</li> <li>• Demonstrate the calculation of raw material required for the desired quantity of finished products</li> <li>• Show how to add salt to butter</li> <li>• Demonstrate the method of producing butter by the continuous method</li> <li>• Show the method of grading butter</li> </ul>

content in butter <ul style="list-style-type: none"> <li>• Explain the different processes followed to produce butter by the continuous method</li> <li>• Explain the method of packaging and storing butter</li> </ul>	
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	

## Module 6: Prepare for production of ghee

### Mapped to FIC/N2010, v 1.0

#### Terminal Outcomes:

- Discuss the methods used for preparing ghee
- Demonstrate the various method used during production

<b>Duration:</b> 06:00	<b>Duration:</b> 21:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the various methods of preparing ghee.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of production planning.</li> <li>• Demonstrate how to calculate the process time for effective utilisation of machineries</li> <li>• Show how to plan batch size considering full capacity utilisation of equipment</li> <li>• Show how to organise raw materials and equipment as per the production schedule</li> <li>• Demonstrate the method of granulating and cooling ghee.</li> <li>• Demonstrate the method of packaging and storing ghee.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	

## Module 7: Production of Butter

### Mapped to FIC/N2011, v 1.0

#### Terminal Outcomes:

- Demonstrate the process of producing butter and cleaning machineries and work area after production.

<b>Duration:</b> 10:00	<b>Duration:</b> 22:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the production process of butter.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of producing cream.</li> <li>• Demonstrate the process of producing butter.</li> <li>• Demonstrate the process of cleaning the work area and machineries after production.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	

## Module 8: Production of Ghee

### Mapped to FIC/N2011, v 1.0

#### Terminal Outcomes:

- Demonstrate the process of producing ghee and cleaning machineries and work area after production

<b>Duration:</b> 08:00	<b>Duration:</b> 17:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss the steps involved in production of ghee.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of producing ghee.</li> <li>• Demonstrate the process of cleaning the work area and machineries after production.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	



## Module 9: Complete documentation and record keeping

### Mapped to FIC/N2012, v 1.0

#### Terminal Outcomes:

- Explain the methods of documenting and recording the complete details
- Demonstrate the process of documenting records effectively

<b>Duration:</b> 08:00	<b>Duration:</b> 14:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• State the need for documenting and maintaining records of raw materials, processes and finished products.</li> <li>• State the method of documenting and recording the details of raw material to final finished product.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of documenting records of production plan, process parameters, and finished products.</li> <li>• Demonstrate the process of maintaining documents for raw materials, production schedule, process parameters and finished products.</li> <li>• Document daily records in the ERP system effectively.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminum/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	

## Module 10: IT orientation

### Mapped to FIC/N2012, v1.0

#### Terminal Outcomes:

- List the parts of a computer
- Demonstrate the effective use of data recording applications at the workplace

<b>Duration:</b> 10:00	<b>Duration:</b> 15:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the various parts of a computer.</li> <li>• Describe the functions of different computer devices.</li> <li>• List the various applications used in recording information.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the standard techniques used to operate a computer.</li> <li>• Show how to use an ERP software for recording information.</li> <li>• Demonstrate the effective use of applications such as word processor and spreadsheets.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Computer/laptop.	

## Module 11: Ensuring food safety, personal hygiene and workplace sanitation

### Mapped to FIC/N9001, v 1.0

#### Terminal Outcomes:

- Perform safety and sanitation related functions (for processing food products).
- Apply food safety practices (for processing food products).

<b>Duration:</b> 07:00	<b>Duration:</b> 29:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Define hazards and risks.</li> <li>• Recall the various types of health and safety equipment available in an organisation and the methods for obtaining them.</li> <li>• Discuss the organisational health and safety policies and procedures.</li> <li>• State the importance of safety, hygiene and sanitation in the food industry.</li> <li>• Discuss the importance of sanitising self and the work area safely and appropriately.</li> <li>• Recall the ways to store the sanitising materials appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply the industry standards to maintain a safe and hygiene workplace.</li> <li>• Apply HACCP principles to eliminate food safety hazards in the process and products.</li> <li>• Apply safety practices in the work area.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Motor (AC); Different Size of Stainless Steel (SS) Pipes; Different Size of Angles (SS); Different Size of Joint (SS); Different Size of Valves (SS); Plates of Heat Exchanger (SS); Muslin Cloth; Weighing Machine; Milk Stirrer; Nut bolts (different Sizes); Cane (Aluminium/SS); Thermometer; Test Tube (Glass); Test Tube Holder; Gas with Burner; Measurement Cane; Utensils to Heat the Milk; Joints/angles Opener, pasteurizer, Opener, Shredder, Blender, Feeder, Silos, Separators, Dryers, Evaporators, Clarifier, Mixer, Extruder, Texturizer, Scraped Surface Heat Exchanger, Molder, Melters, Churner, Balance tank, Plate Heat Exchanger, Concentrator, Separator, Homogenizer, Pasteurizer, Timer, Vacuum Chamber, Muslin Cloth; Milk Sampling Bottle; Milk Stirrer; Gas with Burner; Knives, Spatulas, Packing Wrap Rolls, Measuring Cup and Spoons, Utensils, Digital Hygrometer.	

## Module 12: Employability and Entrepreneurship skills

### Terminal Outcomes:

- Describe the traits of individual at workplace
- Demonstrate apply employability and entrepreneurship skills at workplace

<b>Duration: 28:00</b>	<b>Duration: 12:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss own strengths and weaknesses and analyse the gaps to ensure continuous improvement.</li> <li>• Discuss the measures to be undertaken to utilise time effectively thereby achieving maximum productivity.</li> <li>• List the characteristics of innovative individuals</li> <li>• List the levels of Maslow Hierarchy of needs</li> <li>• List the traits of effective team</li> <li>• Discuss tips for stress management</li> <li>• Discuss the importance of good work ethics</li> <li>• Discuss how to manage an enterprise</li> <li>• Describe how to plan effective strategies for solving problems and improving work culture within the team.</li> <li>• List the various types of digital marketing techniques.</li> <li>• Discuss the types and importance of e-commerce in promoting businesses.</li> <li>• List the various types of online banking services being used widely.</li> <li>• Discuss the procedure to apply for bank finances</li> <li>• List the elements of a proposal to attract future business opportunities and prospective clients.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to analyse a situation to identify gaps for improving the work process.</li> <li>• Demonstrate the procedure to plan the time taken to perform various tasks effectively.</li> <li>• Describe how market research is carried out</li> <li>• Role play the characteristics of an effective entrepreneur and leader</li> <li>• Demonstrate on how to identify new business opportunities</li> <li>• Prepare a sample plan to solve problems and improve productivity at the workplace.</li> <li>• Demonstrate the procedure to operate a computer for digital marketing, e-commerce, branding, etc.</li> <li>• Show how to use services such as NEFT, IMPS, UPI, RTGS for online banking.</li> </ul>

<ul style="list-style-type: none"> <li>• Explain how to conduct entrepreneurial programs to identify business opportunities, generate employment and increase clientele.</li> <li>• Understand the make in India campaign</li> <li>• Discuss the importance of Swachh Bharat Abhiyan</li> <li>• Understand the importance of entrepreneurship</li> <li>• Describe the traits of successful entrepreneur</li> <li>• List the types of enterprises</li> <li>• Understand the importance of effective speaking and listening</li> <li>• Discuss the importance of problem solving</li> <li>• Discuss how to deal with failures</li> <li>• Describe the core keys of marketing</li> <li>• Discuss ways to manage risks at workplace</li> </ul>	
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Computer/laptop.	

## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification <i>&lt;Select the minimum educational requirements, such as 12<sup>th</sup> Pass, Graduate or NSQF certified.&gt;</i>	Specialization <i>&lt;Specify the areas of specialization that are desirable.&gt;</i>	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Dairy Technology	4	hand on experience in a Dairy industry		Training of butter and ghee processing operator	
B.Sc/B.Tech/BE	Dairy Technology or Food Engineering	2	hand on experience in a Dairy industry		Training of butter and ghee processing operator	
M.Sc/M.Tech/ME	Dairy Technology or Food Engineering	1	hand on experience in a Dairy industry		Training of butter and ghee processing operator	

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Butter and Ghee Processing Operator” mapped to QP: “FIC/Q2003, v1.0”. Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted score is 80 % as per FICSI guidelines.

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification <i>&lt;Select the minimum educational requirements, such as 12<sup>th</sup> Pass, Graduate or NSQF certified.&gt;</i>	Specialization <i>&lt;Specify the areas of specialization that are desirable.&gt;</i>	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Dairy Technology	5	hand on experience in a Dairy industry	1	Assessment of butter and ghee processing operator	
B.Sc/B.Tech/BE	Dairy Technology or Food Engineering	3	hand on experience in a Dairy industry	1	Assessment of butter and ghee processing operator	
M.Sc/M.Tech/ME	Dairy Technology or Food Engineering	2	hand on experience in a Dairy industry	1	Assessment of butter and ghee processing operator	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Butter and Ghee Processing Operator” mapped to QP: “FIC/Q2003, v1.0”. Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted score is 80 % as per FICSI guidelines.

## Assessment Strategy

This section includes the processes involved in identifying, gathering and interpreting information to evaluate the learner on the required competencies of the program.

Assessment will be based on the concept of Independent Assessors empanelled with Assessment Agencies, identified, selected, trained and certified on Assessment techniques. These assessors would be aligned to assess as per the laid down criteria.

Assessment Agency would conduct assessment only at the training centres of Training Partner or designated testing centers authorized by FICSI.

Ideally, the assessment will be a continuous process comprising of three distinct steps:

A. Mid- term assessment

B. Term / Final Assessment

Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. Therein each Performance Criteria in the NOS will be assigned marks for theory and / or practical based on relative importance and criticality of function.

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets / question bank so created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially with regard to the practical test and the defined tolerances, finish, accuracy etc.

The following tools are proposed to be used for final assessment:

i. Written Test: This will comprise of (i) True / False Statements (ii) Multiple Choice Questions (iii) Matching Type Questions. Online system for this will be preferred.

ii. Practical Test: This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.

iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand.



## Glossary

Term	Description
<b>Declarative Knowledge</b>	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.
<b>Key Learning Outcome</b>	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).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module</b> . A set of terminal outcomes help to achieve the training outcome.

## Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
FIFO	First In First Out
FEFO	First Expire First Out
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices
CPR	Cardiopulmonary Resuscitation