



## Qualification Pack

# Dairy Products Processor

Electives: Produce Cultured Dairy Products/ Produce Fat- Based Dairy Products/  
Produce Frozen Dairy Products/ Produce Condensed Dairy Products

QP Code: FIC/Q2001

Version: 3.0

NSQF Level: 4

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### FIC/Q2001: Dairy Products Processor

#### Brief Job Description

The Dairy Product Processor operates and monitors equipment to process milk into various dairy products, ensuring quality and safety standards. They work collaboratively with a team to meet production targets and maintain accurate records of production and quality control data.

#### Personal Attributes

The individual must be detail-oriented and committed to quality and safety. They should be adaptable and able to work effectively in a fast-paced environment. Strong problem-solving skills and a proactive approach are essential, along with good communication and teamwork abilities. The individual should be punctual, courteous, and eager to learn new processes and technologies.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [FIC/N9026: Prepare for production](#)
2. [FIC/N2032: Produce Toned, Fat, Low-Fat, and Flavored Milk](#)
3. [FIC/N2033: Carry Out Post-Production Activities](#)
4. [FIC/N9906: Apply food safety guidelines in Food Processing](#)
5. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

##### Electives(mandatory to select at least one):

###### Elective 1: Produce Cultured Dairy Products

This unit equips learners with the skills to produce fermented dairy products, such as cheese, curd, lassi and shrikhand, while ensuring quality, safety, and regulatory compliance. It highlights the importance of understanding fermentation, selecting the right cultures and ingredients, operating equipment, and maintaining hygiene for producing safe, high-quality, and flavorful products.

1. [FIC/N2034: Produce Cultured Dairy Products](#)

###### Elective 2: Produce Fat- Based Dairy Products

This unit equips learners with the skills to produce fat-based dairy products like butter, ghee, whipped cream, khoa, and channa. It focuses on understanding milk fat properties, mastering processing techniques, operating specialized equipment, and maintaining quality control to ensure safe and

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consistent products.

### 1. [FIC/N2035: Produce Fat-Based Dairy Products](#)

#### Elective 3: Produce Frozen Dairy Products

This unit equips learners to produce various frozen dairy treats, from ice cream to frozen custard. Learners master ingredient science, freezing processes, equipment operation, and quality control to create delicious and safe frozen products.

### 1. [FIC/N2036: Produce Frozen Dairy Products](#)

#### Elective 4: Produce Condensed Dairy Products

This unit equips learners with the knowledge and skills to produce various condensed dairy products, ensuring quality, safety, and regulatory standards compliance. It emphasises the processor's role in understanding the principles of concentration and drying, operating specialised equipment.

### 1. [FIC/N2037: Produce Condensed Dairy Products](#)

## Qualification Pack (QP) Parameters

<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Dairy Products
<b>Occupation</b>	Processing-Dairy Products
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	29
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7513.0300

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<b>Minimum Educational Qualification &amp; Experience</b>	12th grade Pass (or Equivalent ) OR 10th grade pass (or Equivalent ) with 2 Years of experience of relevant experience in Food Processing or Dairy Sub-Sector OR Previous relevant Qualification of NSQF Level (3.5) with 1.5 years of experience of relevant experience in Food Processing or dairy sub-sector OR Previous relevant Qualification of NSQF Level (3) with 3 Years of experience of relevant experience in Food Processing or Dairy sub-sector
<b>Minimum Level of Education for Training in School</b>	10th Class
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	26/08/2027
<b>NSQC Approval Date</b>	27/08/2024
<b>Version</b>	3.0
<b>Reference code on NQR</b>	QG-04-FI-02933-2024-V2-FICSI
<b>NQR Version</b>	3.0

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### FIC/N9026: Prepare for production

#### Description

This NOS unit is about performing various tasks prior to production in the food processing industry.

#### Scope

The scope covers the following :

- Plan for production
- Clean and maintain work area, machineries, and tools for production
- Organize for production

#### Elements and Performance Criteria

##### *Plan for production*

To be competent, the user/individual on the job must be able to:

- PC1.** identify work requirements by obtaining instructions from the supervisor. Instructions: process chart, product flow chart, formulation, chart, etc.
- PC2.** plan and prioritize tasks as per work schedule. Tasks: inspect, clean, maintain, verify, etc.
- PC3.** estimate manpower and material requirements as per work requirement. Material: raw materials and packaging materials
- PC4.** ensure required quantity of raw materials, packaging materials, equipment, and manpower for production
- PC5.** plan capacity utilization of machinery with respect to the processing time, production order, and batch size for each product

##### *Clean and maintain work area, machineries, and tools for production*

To be competent, the user/individual on the job must be able to:

- PC6.** clean and maintain the work area as per organizational procedures
- PC7.** clean and maintain the machines and tools and sanitize them as per the organization's specifications and standards
- PC8.** dispose of the waste material at designated place safely. Waste material: hazardous waste, food waste, packaging waste, etc.
- PC9.** inspect the tools, equipment, and machinery to ascertain suitability for use
- PC10.** report information such as faulty tools and equipment to the concerned authority

##### *Organize for production*

To be competent, the user/individual on the job must be able to:

- PC11.** organize tools and equipment
- PC12.** receive and organize production materials appropriately. Production materials: raw materials, packaging materials, etc.
- PC13.** allot responsibilities/work to the assistants and helpers

#### Knowledge and Understanding (KU)

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The individual on the job needs to know and understand:

- KU1.** production planning process
- KU2.** analysis and interpretation of various process charts, product flow charts, etc.
- KU3.** resource management process
- KU4.** procedure to estimate manpower and raw material
- KU5.** capacity utilization calculation
- KU6.** organizational policies and SOP on cleanliness
- KU7.** operating procedure and general maintenance of food production machineries
- KU8.** waste management procedures
- KU9.** methods to inspect tools, equipment and machinery
- KU10.** procedure to allot work or responsibility to the team

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** read and interpret organizational policies, SOP, production charts, etc.
- GS2.** communicate effectively with subordinates as well as supervisors
- GS3.** plan and prioritize various tasks
- GS4.** be always punctual and courteous
- GS5.** organize all process/equipment manuals to access information easily
- GS6.** discuss task lists, schedules, and activities with the senior/supervisor

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan for production</i>	<b>11</b>	<b>25</b>	-	-
<b>PC1.</b> identify work requirements by obtaining instructions from the supervisor. Instructions: process chart, product flow chart, formulation, chart, etc.	3	6	-	-
<b>PC2.</b> plan and prioritize tasks as per work schedule. Tasks: inspect, clean, maintain, verify, etc.	2	5	-	-
<b>PC3.</b> estimate manpower and material requirements as per work requirement. Material: raw materials and packaging materials	2	4	-	-
<b>PC4.</b> ensure required quantity of raw materials, packaging materials, equipment, and manpower for production	2	5	-	-
<b>PC5.</b> plan capacity utilization of machinery with respect to the processing time, production order, and batch size for each product	2	5	-	-
<i>Clean and maintain work area, machineries, and tools for production</i>	<b>14</b>	<b>32</b>	-	-
<b>PC6.</b> clean and maintain the work area as per organizational procedures	3	7	-	-
<b>PC7.</b> clean and maintain the machines and tools and sanitize them as per the organization's specifications and standards	3	7	-	-
<b>PC8.</b> dispose of the waste material at designated place safely. Waste material: hazardous waste, food waste, packaging waste, etc.	3	7	-	-
<b>PC9.</b> inspect the tools, equipment, and machinery to ascertain suitability for use	3	6	-	-
<b>PC10.</b> report information such as faulty tools and equipment to the concerned authority	2	5	-	-
<i>Organize for production</i>	<b>5</b>	<b>13</b>	-	-
<b>PC11.</b> organize tools and equipment	2	7	-	-



### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> receive and organize production materials appropriately. Production materials: raw materials, packaging materials, etc.	2	4	-	-
<b>PC13.</b> allot responsibilities/work to the assistants and helpers	1	2	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N9026
<b>NOS Name</b>	Prepare for production
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Production
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N2032: Produce Toned, Fat, Low-Fat, and Flavored Milk

#### Description

This NOS equips learners with the skills and knowledge to produce different milk products, ensuring quality, safety, and regulatory standards compliance. It emphasises the vital role of milk processors in maintaining product consistency, nutritional value, and sensory appeal while adhering to Good Manufacturing Practices (GMP).

#### Scope

The scope covers the following :

- The scope of this unit encompasses:
- Raw material management
- Production planning
- Equipment operation and maintenance
- Milk production (toned, fat, low-fat, Flavored)

#### Elements and Performance Criteria

##### *Manage Raw Materials and Ensure Quality*

To be competent, the user/individual on the job must be able to:

- PC1.** select suppliers based on quality, price, and reliability using established criteria and assessment tools.
- PC2.** verify supplier compliance with quality and safety certifications
- PC3.** establish and maintain contracts with approved suppliers, ensuring clear terms and conditions.
- PC4.** inspect and assess the quality of incoming dairy ingredients upon arrival, including sensory evaluation.
- PC5.** implement procedures for receiving, sampling, and testing ingredients
- PC6.** maintain traceability and documentation of all quality control data
- PC7.** ensure proper storage and cooling of dairy ingredients and processed milk products to maintain quality and prevent spoilage. during post-production
- PC8.** rotate stock using fifo to ensure freshness and prevent deterioration.
- PC9.** segregate ingredient batches to prevent cross-contamination.
- PC10.** maintain records of delivery documentation for all ingredients, including delivery notes and temperature logs.

##### *Produce toned, fat, and low-fat and flavoured milk*

To be competent, the user/individual on the job must be able to:

- PC11.** standardise raw milk to the desired fat and solids-not-fat (SNF) levels for toned milk, full-fat milk, or low-fat milk
- PC12.** pasteurise and homogenise the standardised milk
- PC13.** control time-temperature relationships and ensure equipment accuracy
- PC14.** prepare the milk base according to the desired flavour profile.

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- PC15.** evaluate flavoring ingredients based on their quality, compatibility with milk, and sensory attributes to ensure optimal product taste and consistency.
- PC16.** add flavouring ingredients and sweeteners to the milk base
- PC17.** ensuring thorough mixing and dissolution
- PC18.** pasteurise and homogenise the flavoured milk mix to ensure product safety, texture and stability.
- PC19.** cool the processed/ flavoured milk to the desired temperature.
- PC20.** package milk products using approved materials and procedures

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Proper milk handling practices are important throughout the production chain to ensure milk quality and safety.
- KU2.** Key milk transport considerations include temperature control, hygiene, and contamination prevention.
- KU3.** Procedures for milk storage, maintaining optimal temperature and storage duration.
- KU4.** Quality control checks on received milk, including sensory evaluation, temperature checks, and antibiotic testing.
- KU5.** How to use HMI displays and sensor data to troubleshoot equipment malfunctions.
- KU6.** How to adjust process parameters (temperature, pH, time) based on real-time data and product specifications.
- KU7.** The importance of cleaning and sanitation equipment and procedures.
- KU8.** How to develop sensory evaluation skills through practice and training.
- KU9.** Interpretation of test results and identification of quality deviations (moisture, acidity).
- KU10.** Implementation of corrective actions to address quality issues.
- KU11.** Maintenance of microbiological testing records for raw materials and finished products.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Communicate effectively orally and in writing, conveying technical information to colleagues and supervisors.
- GS2.** Read and interpret technical documents (SOPs, equipment manuals, safety guidelines).
- GS3.** Write clear and accurate reports, production logs, and quality control documentation.
- GS4.** Calculate and apply basic math for ingredient measurements, process control, and yield calculations.
- GS5.** Solve problems by identifying root causes, proposing solutions, and implementing corrective action
- GS6.** Make decisions based on information analysis, considering product quality and safety.
- GS7.** Plan and organise work activities, prioritising tasks and managing time.



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- GS8.** Work effectively in a team, collaborating and sharing information.
- GS9.** Adapt to challenges and changes in production schedules.
- GS10.** Show initiative and take responsibility for tasks and continuous learning.
- GS11.** Maintain a clean and organised work environment, adhering to GMP and hygiene standards.
- GS12.** Follow safety protocols and procedures, use PPE correctly, and report hazards.
- GS13.** Demonstrate customer focus by understanding needs and producing high-quality products.

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Manage Raw Materials and Ensure Quality</i>	<b>11</b>	<b>25</b>	-	<b>6</b>
<b>PC1.</b> select suppliers based on quality, price, and reliability using established criteria and assessment tools.	-	-	-	-
<b>PC2.</b> verify supplier compliance with quality and safety certifications	-	-	-	-
<b>PC3.</b> establish and maintain contracts with approved suppliers, ensuring clear terms and conditions.	-	-	-	-
<b>PC4.</b> inspect and assess the quality of incoming dairy ingredients upon arrival, including sensory evaluation.	-	-	-	-
<b>PC5.</b> implement procedures for receiving, sampling, and testing ingredients	-	-	-	-
<b>PC6.</b> maintain traceability and documentation of all quality control data	-	-	-	-
<b>PC7.</b> ensure proper storage and cooling of dairy ingredients and processed milk products to maintain quality and prevent spoilage. during post-production	-	-	-	-
<b>PC8.</b> rotate stock using fifo to ensure freshness and prevent deterioration.	-	-	-	-
<b>PC9.</b> segregate ingredient batches to prevent cross-contamination.	-	-	-	-
<b>PC10.</b> maintain records of delivery documentation for all ingredients, including delivery notes and temperature logs.	-	-	-	-
<i>Produce toned, fat, and low-fat and flavoured milk</i>	<b>14</b>	<b>35</b>	-	<b>9</b>
<b>PC11.</b> standardise raw milk to the desired fat and solids-not-fat (SNF) levels for toned milk, full-fat milk, or low-fat milk	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> pasteurise and homogenise the standardised milk	-	-	-	-
<b>PC13.</b> control time-temperature relationships and ensure equipment accuracy	-	-	-	-
<b>PC14.</b> prepare the milk base according to the desired flavour profile.	-	-	-	-
<b>PC15.</b> evaluate flavoring ingredients based on their quality, compatibility with milk, and sensory attributes to ensure optimal product taste and consistency.	-	-	-	-
<b>PC16.</b> add flavouring ingredients and sweeteners to the milk base	-	-	-	-
<b>PC17.</b> ensuring thorough mixing and dissolution	-	-	-	-
<b>PC18.</b> pasteurise and homogenise the flavoured milk mix to ensure product safety, texture and stability.	-	-	-	-
<b>PC19.</b> cool the processed/ flavoured milk to the desired temperature.	-	-	-	-
<b>PC20.</b> package milk products using approved materials and procedures	-	-	-	-
<b>NOS Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2032
<b>NOS Name</b>	Produce Toned, Fat, Low-Fat, and Flavored Milk
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	3
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024



## Qualification Pack

### FIC/N2033: Carry Out Post-Production Activities

#### Description

This unit equips learners with the knowledge and skills to effectively manage post-production activities in the dairy industry. It covers essential tasks like packaging, labelling, storage, distribution, and quality control, ensuring the safe handling and delivery of finished dairy products to consumers while maintaining compliance with industry standards and regulations.

#### Scope

The scope covers the following :

- The scope of this unit encompasses:
- Packaging
- Labelling
- Storage
- Distribution
- Quality control and record-keeping
- Maintenance
- Repair and troubleshooting
- Upkeep of equipment

#### Elements and Performance Criteria

##### *Carryout packaging and labeling*

To be competent, the user/individual on the job must be able to:

- PC1.** Select appropriate packaging materials for different dairy products based on their characteristics, shelf-life requirements, and transportation needs.
- PC2.** Operate packaging machines safely and efficiently, adhering to packaging regulations and standard operating procedures (SOPs)
- PC3.** Inspect packaged products for proper sealing, labelling, and overall quality before further processing or storage.
- PC4.** Ensure accurate and compliant labelling of dairy products, including product name, ingredient nutritional information, batch number, and expiration date.
- PC5.** Verify label adherence to relevant food labelling regulations and industry standards.
- PC6.** Inspect labels for clarity, legibility, and proper placement on packaging.

##### *Store dairy products*

To be competent, the user/individual on the job must be able to:

- PC7.** Store dairy products under appropriate temperature and humidity conditions to maintain quality and prevent spoilage.
- PC8.** Implement proper inventory management systems for efficient tracking and rotation of dairy products, ensuring freshness and minimising waste.
- PC9.** Maintain cleanliness and hygiene in storage areas to prevent contamination and pest infestation.

##### *Prepare for Distribution*

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To be competent, the user/individual on the job must be able to:

- PC10.** Prepare dairy products for safe and timely distribution to various points of sale, including retail stores, restaurants, and other food service establishments.
- PC11.** Maintain accurate records of distribution, including delivery dates, quantities, and destinations.

### *Ensure Quality Control and Record-Keeping*

To be competent, the user/individual on the job must be able to:

- PC12.** Conduct regular sensory evaluations of finished dairy products against established quality standards.
- PC13.** Perform relevant quality control tests on finished products and interpret the results accurately.
- PC14.** Identify deviations from desired product specifications or safety standards.
- PC15.** Investigate the root causes of identified quality deviations and implement appropriate corrective actions to address quality issues.
- PC16.** Ensure the implementation of preventive measures to prevent the recurrence of quality issues.
- PC17.** Maintain detailed and accurate records of all production batches, including quality control data, for traceability purposes.
- PC18.** Integrate quality control data into ERP systems for comprehensive data analysis, trend monitoring, and informed decision-making.

### *Perform routine maintenance troubleshooting and repair*

To be competent, the user/individual on the job must be able to:

- PC19.** Maintain a clean and organised work area to ensure equipment longevity and product safety
- PC20.** Perform routine and preventive maintenance tasks on equipment used in post-production activities as per SOPs
- PC21.** Identify and diagnose common equipment malfunctions or breakdowns
- PC22.** Perform minor repairs on equipment or initiate requests for professional repair services as needed
- PC23.** Maintain accurate and detailed records of equipment maintenance, repairs, and performance

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Different types of packaging materials used in the dairy industry (e.g., plastic, glass, paperboard) and their suitability for various dairy products.
- KU2.** Packaging technologies and machinery used in post-production, including filling, sealing, and labelling equipment.
- KU3.** Principles of food labelling, including mandatory information, allergen declarations, and nutritional labelling requirements.
- KU4.** Optimal storage conditions (temperature, humidity, light exposure) for different dairy products to maintain quality and safety.
- KU5.** Inventory management techniques, including FIFO (First-In, First-Out) and FEFO (First-Expired, First-Out) principles.

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- KU6.** Transportation requirements for different dairy products, considering temperature control and handling procedures.
- KU7.** Quality control tests relevant to post-production, such as sensory evaluation, microbiological testing, and shelf-life assessment.
- KU8.** Root cause analysis techniques to identify the underlying causes of quality deviations or product defects.
- KU9.** Corrective and preventive actions (CAPA) to address quality issues and prevent their recurrence.
- KU10.** Record-keeping systems and documentation practices for traceability and compliance purposes.
- KU11.** The role of ERP (Enterprise Resource Planning) systems in managing post-production activities, including inventory control, production scheduling, and sales data.
- KU12.** The use of SCADA (Supervisory Control and Data Acquisition) systems to monitor and control critical process parameters in real-time during storage and distribution.
- KU13.** The application of barcode or RFID (Radio Frequency Identification) technology for product traceability, inventory management, and quality control.
- KU14.** Relevant food safety regulations and standards applicable to the post-production handling, storage, and distribution of dairy products.
- KU15.** Hygiene and sanitation practices are essential for maintaining a clean and safe postproduction environment.
- KU16.** Personal protective equipment (PPE) is required for the safe handling of dairy products and the operation of post-production equipment.
- KU17.** Waste management and disposal procedures in the dairy industry, with a focus on minimising environment impact.
- KU18.** The importance of continuous improvement and innovation in post-production processes to enhance efficiency, product quality, and customer satisfaction.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** The user/individual on the job needs to know how to:
- GS2.** Communicate effectively (oral and written) with colleagues, supervisors, and customers.
- GS3.** Solve problems and think critically to identify and resolve issues in post-production.
- GS4.** Pay attention to detail and maintain accuracy in performing tasks and maintaining records.
- GS5.** Manage time and organise tasks to ensure efficient workflow and timely completion.
- GS6.** Work independently and as part of a team to achieve common goals.
- GS7.** Adapt and be flexible in responding to changing situations and priorities.
- GS8.** Take initiative and be self-motivated to complete tasks and seek continuous improvement.
- GS9.** Use numerical and analytical skills to interpret quality control data and make informed decisions.
- GS10.** Be willing to learn and adapt to new technologies and processes in the dairy industry.

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carryout packaging and labeling</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC1.</b> Select appropriate packaging materials for different dairy products based on their characteristics, shelf-life requirements, and transportation needs.	-	-	-	-
<b>PC2.</b> Operate packaging machines safely and efficiently, adhering to packaging regulations and standard operating procedures (SOPs)	-	-	-	-
<b>PC3.</b> Inspect packaged products for proper sealing, labelling, and overall quality before further processing or storage.	-	-	-	-
<b>PC4.</b> Ensure accurate and compliant labelling of dairy products, including product name, ingredient nutritional information, batch number, and expiration date.	-	-	-	-
<b>PC5.</b> Verify label adherence to relevant food labelling regulations and industry standards.	-	-	-	-
<b>PC6.</b> Inspect labels for clarity, legibility, and proper placement on packaging.	-	-	-	-
<i>Store dairy products</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC7.</b> Store dairy products under appropriate temperature and humidity conditions to maintain quality and prevent spoilage.	-	-	-	-
<b>PC8.</b> Implement proper inventory management systems for efficient tracking and rotation of dairy products, ensuring freshness and minimising waste.	-	-	-	-
<b>PC9.</b> Maintain cleanliness and hygiene in storage areas to prevent contamination and pest infestation.	-	-	-	-
<i>Prepare for Distribution</i>	<b>5</b>	<b>12</b>	-	<b>3</b>

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> Prepare dairy products for safe and timely distribution to various points of sale, including retail stores, restaurants, and other food service establishments.	-	-	-	-
<b>PC11.</b> Maintain accurate records of distribution, including delivery dates, quantities, and destinations.	-	-	-	-
<i>Ensure Quality Control and Record-Keeping</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC12.</b> Conduct regular sensory evaluations of finished dairy products against established quality standards.	-	-	-	-
<b>PC13.</b> Perform relevant quality control tests on finished products and interpret the results accurately.	-	-	-	-
<b>PC14.</b> Identify deviations from desired product specifications or safety standards.	-	-	-	-
<b>PC15.</b> Investigate the root causes of identified quality deviations and implement appropriate corrective actions to address quality issues.	-	-	-	-
<b>PC16.</b> Ensure the implementation of preventive measures to prevent the recurrence of quality issues.	-	-	-	-
<b>PC17.</b> Maintain detailed and accurate records of all production batches, including quality control data, for traceability purposes.	-	-	-	-
<b>PC18.</b> Integrate quality control data into ERP systems for comprehensive data analysis, trend monitoring, and informed decision-making.	-	-	-	-
<i>Perform routine maintenance troubleshooting and repair</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC19.</b> Maintain a clean and organised work area to ensure equipment longevity and product safety	-	-	-	-
<b>PC20.</b> Perform routine and preventive maintenance tasks on equipment used in post-production activities as per SOPs	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC21.</b> Identify and diagnose common equipment malfunctions or breakdowns	-	-	-	-
<b>PC22.</b> Perform minor repairs on equipment or initiate requests for professional repair services as needed	-	-	-	-
<b>PC23.</b> Maintain accurate and detailed records of equipment maintenance, repairs, and performance	-	-	-	-
<b>NOS Total</b>	<b>25</b>	<b>60</b>	-	<b>15</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2033
<b>NOS Name</b>	Carry Out Post-Production Activities
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	3
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N9906: Apply food safety guidelines in Food Processing

#### Description

This unit covers the essential components of food safety, Good Manufacturing Practices (GMP), and personal hygiene in the food industry. It emphasizes the importance of individuals working in the food industry in protecting the health and well-being of consumers by following food safety protocols and procedures and ensuring the production of safe and high-quality food products.

#### Scope

The scope covers the following :

- Apply personal hygiene and follow Good Manufacturing practices at the workplace.
- Implement Food Safety and pre-requisite programs (PRP) at the workplace.

#### Elements and Performance Criteria

*Apply personal hygiene and follow Good Manufacturing practices at workplace*

To be competent, the user/individual on the job must be able to:

- PC1.** PC1. follow a site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules.
- PC2.** PC2. follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines.
- PC3.** PC3. ensure timely participate and carry out the relevant training and awareness sessions on personal hygiene, GMP, and related topics.
- PC4.** PC4. ensure timely medical examination from a prescribed and authorized doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.
- PC5.** PC5. fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.
- PC6.**
  - PC6. follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site.
  - procedure: Hand washing requirements, Gowning & De gowning protocols, cleaning, and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like Low Risk, High Risk, High Care areas, etc.
- PC7.** PC7. follow all validated Do's & Don'ts inside a food manufacturing firm.
- PC8.** PC8. follow man and materials movement throughout the production facility, to restrict unwanted hazards to cross-contaminate the products which are being manufactured in the facility.
- PC9.** PC9. refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line.
- PC10.** PC10. identify the material requirements such as manufacturing equipments, Utensils, and other processing aids, cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to Allergens and their risks. Wherever required, the allergen requirements shall be separately addressed.



## Qualification Pack

- PC11.** PC11. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.
- PC12.** PC12. follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation.
- PC13.** PC13. participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.
- PC14.** PC14. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.

### *Implement food safety practices at the workplace*

To be competent, the user/individual on the job must be able to:

- PC15.** PC15. maintain updated facilities, equipment, and tool and design requirements to minimize the risks associated with the products being handled at the site.
- PC16.** PC16. follow the instruction in the raw and packaging materials warehouse and ensure receiving material parameters match all the laid requirements. parameters: Incoming vehicles Visual report, storage, and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted & rejected goods, monitoring temperature and humidity, etc.
- PC17.** PC17. follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.
- PC18.** PC18. ensure timely check of the critical control points and product parameters.
- PC19.** PC19. record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.
- PC20.** PC20. report any food safety and GMP issue to the supervisor, if any.

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** importance of personal hygiene, GMP, visitors & contractor's rules. Associated risk in case of deviation from the standard policies and how the requirement is linked with the site's FSSAI License.
- KU2.** KU2. importance of training and work instruction delivered by the supervisors.
- KU3.** KU3. importance of filling the records and checklists, formats and how to ensure that the timely and effective completion is achieved.
- KU4.** KU4. knowledge of trainings and skills required to perform in food processing premises.
- KU5.** KU5. understand FSSAI Schedule IV requirements of food handlers and PRPs within the processing area
- KU6.** KU6. importance of timely medical examinations and awareness of communicable diseases
- KU7.** Understanding of Do's & Don'ts, intellect mindset to understand the visual illustrations
- KU8.** KU8. understanding about Site Zoning plans.
- KU9.** KU9. awareness of layout which would help to demarcate the defined movements of RM, PM, FG, and wastes generated during the processing of goods. This one lays a framework to launch Good Manufacturing Practices (GMP) successfully and effectively on site.

## Qualification Pack

- KU10.** KU10. understand the manufacturing process, product parameters and process control parameters such as CCPs
- KU11.** KU11. understanding about Hazard Analysis and Critical Control Points (HACCP)
- KU12.** KU12. understanding about Allergens and their types and controls to monitor effective handling of allergen raw materials on site.
- KU13.** KU13. basic understanding of traceability and mock recall
- KU14.** KU14. awareness about Internal & external Audits
- KU15.** KU15. understanding for RCA CAPA, cleaning and sanitation
- KU16.** KU16. awareness about record keeping and data monitoring in various sheets as per organizational requirement

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** GS1. read and comprehend basic content to read labels, charts, signages, symbols and product manuals
- GS2.** GS2. communicate with coworkers appropriately to clarify instructions and other issues
- GS3.** GS3. plan and organize the work schedule, work area, tools, equipment, and materials for improved productivity
- GS4.** GS4. plan and prioritize tasks as per work requirements
- GS5.** GS5. always be punctual and courteous
- GS6.** GS6. good observations and intellect mindset

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Apply personal hygiene and follow Good Manufacturing practices at workplace</i>	<b>22</b>	<b>44</b>	-	<b>6</b>
<b>PC1.</b> PC1. follow a site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules.	2	4	-	-
<b>PC2.</b> PC2. follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines.	2	4	-	2
<b>PC3.</b> PC3. ensure timely participate and carry out the relevant training and awareness sessions on personal hygiene, GMP, and related topics.	2	4	-	-
<b>PC4.</b> PC4. ensure timely medical examination from a prescribed and authorized doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.	2	4	-	-
<b>PC5.</b> PC5. fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.	2	4	-	-
<b>PC6.</b> <ul style="list-style-type: none"> <li>PC6. follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site.</li> <li>procedure: Hand washing requirements, Gowning &amp; De gowning protocols, cleaning, and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like Low Risk, High Risk, High Care areas, etc.</li> </ul>	2	4	-	2
<b>PC7.</b> PC7. follow all validated Do's & Don'ts inside a food manufacturing firm.	1	2	-	1
<b>PC8.</b> PC8. follow man and materials movement throughout the production facility, to restrict unwanted hazards to cross-contaminate the products which are being manufactured in the facility.	2	4	-	-
<b>PC9.</b> PC9. refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line.	1	2	-	1

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> PC10. identify the material requirements such as manufacturing equipments, Utensils, and other processing aids, cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to Allergens and their risks. Wherever required, the allergen requirements shall be separately addressed.	2	4	-	-
<b>PC11.</b> PC11. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.	1	2	-	-
<b>PC12.</b> PC12. follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation.	1	2	-	-
<b>PC13.</b> PC13. participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.	1	2	-	-
<b>PC14.</b> PC14. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.	1	2	-	-
<i>Implement food safety practices at the workplace</i>	<b>8</b>	<b>16</b>	-	<b>4</b>
<b>PC15.</b> PC15. maintain updated facilities, equipment, and tool and design requirements to minimize the risks associated with the products being handled at the site.	2	4	-	-
<b>PC16.</b> PC16. follow the instruction in the raw and packaging materials warehouse and ensure receiving material parameters match all the laid requirements. parameters: Incoming vehicles Visual report, storage, and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted & rejected goods, monitoring temperature and humidity, etc.	1	2	-	1

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC17.</b> PC17. follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.	2	4	-	2
<b>PC18.</b> PC18. ensure timely check of the critical control points and product parameters.	1	2	-	-
<b>PC19.</b> PC19. record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.	1	2	-	1
<b>PC20.</b> PC20. report any food safety and GMP issue to the supervisor, if any.	1	2	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	<b>-</b>	<b>10</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N9906
<b>NOS Name</b>	Apply food safety guidelines in Food Processing
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	3
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### DGT/VSQ/N0102: Employability Skills (60 Hours)

#### Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

#### Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

#### Elements and Performance Criteria

##### *Introduction to Employability Skills*

To be competent, the user/individual on the job must be able to:

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

##### *Constitutional values - Citizenship*

To be competent, the user/individual on the job must be able to:

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

##### *Becoming a Professional in the 21st Century*

To be competent, the user/individual on the job must be able to:

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

##### *Basic English Skills*

To be competent, the user/individual on the job must be able to:

## Qualification Pack

- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

### *Career Development & Goal Setting*

To be competent, the user/individual on the job must be able to:

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

### *Communication Skills*

To be competent, the user/individual on the job must be able to:

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

### *Diversity & Inclusion*

To be competent, the user/individual on the job must be able to:

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

### *Financial and Legal Literacy*

To be competent, the user/individual on the job must be able to:

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

### *Essential Digital Skills*

To be competent, the user/individual on the job must be able to:

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

### *Entrepreneurship*

To be competent, the user/individual on the job must be able to:

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

### *Customer Service*

To be competent, the user/individual on the job must be able to:

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.



## Qualification Pack

**PC28.** follow appropriate hygiene and grooming standards

*Getting ready for apprenticeship & Jobs*

To be competent, the user/individual on the job must be able to:

**PC29.** create a professional Curriculum vitae (Résumé)

**PC30.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

**PC31.** apply to identified job openings using offline /online methods as per requirement

**PC32.** answer questions politely, with clarity and confidence, during recruitment and selection

**PC33.** identify apprenticeship opportunities and register for it as per guidelines and requirements

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** need for employability skills and different learning and employability related portals

**KU2.** various constitutional and personal values

**KU3.** different environmentally sustainable practices and their importance

**KU4.** Twenty first (21st) century skills and their importance

**KU5.** how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

**KU6.** importance of career development and setting long- and short-term goals

**KU7.** about effective communication

**KU8.** POSH Act

**KU9.** Gender sensitivity and inclusivity

**KU10.** different types of financial institutes, products, and services

**KU11.** how to compute income and expenditure

**KU12.** importance of maintaining safety and security in offline and online financial transactions

**KU13.** different legal rights and laws

**KU14.** different types of digital devices and the procedure to operate them safely and securely

**KU15.** how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

**KU16.** how to identify business opportunities

**KU17.** types and needs of customers

**KU18.** how to apply for a job and prepare for an interview

**KU19.** apprenticeship scheme and the process of registering on apprenticeship portal

## Generic Skills (GS)

User/individual on the job needs to know how to:

**GS1.** read and write different types of documents/instructions/correspondence

**GS2.** communicate effectively using appropriate language in formal and informal settings



## Qualification Pack

- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> use basic features of word processor, spreadsheets, and presentations	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	<b>2</b>	<b>3</b>	-	-
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N2034: Produce Cultured Dairy Products

#### Description

This NOS equips learners with the skills to produce fermented dairy products, such as cheese, curd, lassi and shrikhand, while ensuring quality, safety, and regulatory compliance. It highlights the importance of understanding fermentation, selecting the right cultures and ingredients, operating equipment, and maintaining hygiene for producing safe, high-quality, and flavorful products.

#### Scope

The scope covers the following :

- The scope covers the following :
- Fermentation processes
- Equipment operation and maintenance
- General production principles
- Fermented product production

#### Elements and Performance Criteria

##### *Operate production equipment*

To be competent, the user/individual on the job must be able to:

- PC1.** Explain and demonstrate the safe and proper operation of fermenters/incubators, separators, and coolers/chillers in accordance with SOPs.
- PC2.** Monitor tank levels and temperatures and maintain ensure product quality and prevent overflowing or spoilage.
- PC3.** Demonstrate safe and proper use of manual and automated curd and cheese cutting equipment as per SOPs
- PC4.** Operate and adjust filling machines according to SOPs to ensure accurate fill volumes, minimise product waste, and maintain package integrity.

##### *Produce cheese*

To be competent, the user/individual on the job must be able to:

- PC5.** Receive, inspect, and test raw material for cheese production.
- PC6.** Ensure that quality specifications are met and documentation is in order.
- PC7.** Add starter culture as per cheese recipe at the correct temperature and concentration
- PC8.** Heat the curd-whey mixture to achieve the desired moisture content as per the cheese recipe.
- PC9.** Drain the whey from the curd.
- PC10.** Press the curd using cheese presses with adjustable pressure and time settings.
- PC11.** Salt the cheese by either dry salting or brining.
- PC12.** Store cheese in a ripening/maturation chamber under controlled temperature and humidity for proper flavour and texture development.
- PC13.** Monitor and document the ripening environment.
- PC14.** Ensure optimal conditions for the specific cheese type.

## Qualification Pack

**PC15.** Assess cheese quality throughout the ripening process using sensory evaluation and relevant tests.

### *Produce curd*

To be competent, the user/individual on the job must be able to:

- PC16.** Receive and inspect raw materials for curd production.
- PC17.** Ensure that quality specifications are met and documentation is in order.
- PC18.** add the right starter culture to the milk at the specific temperature and amount.
- PC19.** Maintain the inoculated milk at the optimal incubation temperature and time.
- PC20.** Track pH, acidity, and texture changes to determine ideal firmness and consistency during curd formation.
- PC21.** Cut the formed curd into small cubes using a curd knife or similar tool
- PC22.** Promote syneresis (whey expulsion) and achieve the desired moisture content and firmness.
- PC23.** Ensure curd reaches the right temperature and cooking time, avoiding overcooking for optimal texture and flavor.
- PC24.** Transfer the cooked curd to a cheesecloth-lined container or mould for effective whey Dno rainage.
- PC25.** Add salt to the drained curd for taste and preservation, following recipe specifications.

### *Produce lassi*

To be competent, the user/individual on the job must be able to:

- PC26.** Receive, inspect, and test raw material for Lassi production.
- PC27.** Verify quality and documentation.
- PC28.** Inoculate milk/buttermilk with the correct lactic acid bacteria culture dosage.
- PC29.** Ferment the inoculated milk/buttermilk at the recommended temperature
- PC30.** Blend the fermented milk with chilled water until you get the desired consistency for the lassi.
- PC31.** Add salt and spices as per the recipe or desired flavour profile
- PC32.** Chill the lassi to the desired serving temperature and maintain freshness and quality.

### *Produce shrikhand*

To be competent, the user/individual on the job must be able to:

- PC33.** standardise yogurt using a cream separator to the desired fat content for shrikhand production
- PC34.** check the fat content of the yogurt using a hydrometer/lactometer
- PC35.** drain yoghurt using a muslin cloth or yoghurt strainer and achieve chakka consistency
- PC36.** blend chakka with a planetary mixer or stand mixer with sugar and attain sweetness level.
- PC37.** check sugar concentration using a refractometer
- PC38.** add cardamom powder, saffron, and other desired flavorings.
- PC39.** chill the shrikhand to allow flavors to meld and texture to firm up.

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



## Qualification Pack

- KU1.** The contribution of lactic acid to flavour and aroma in fermented dairy products.
- KU2.** Different starter cultures are used in fermented dairy production (e.g., Lactobacillus bulgaricus, Streptococcus thermophilus).
- KU3.** The impact of starter culture selection and dosage on flavour and texture.
- KU4.** The function of various equipment in fermented dairy production (fermenters, homogenisers, separators, coolers, storage tanks, etc.).
- KU5.** The specific role of each equipment in the production process (e.g., temperature control, curd cutting).
- KU6.** Safe and proper operation of production equipment based on standard operating procedures (SOPs).
- KU7.** The steps involved in producing specific cultured dairy products
- KU8.** How to adjust process parameters (temperature, pH, time) based on real-time data and product specifications.
- KU9.** The desired curd characteristics in different cultured dairy products.
- KU10.** Specific production processes for regional cultured dairy specialties
- KU11.** Quality and hygiene standards in cultured dairy production.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Communicate effectively orally and in writing, conveying technical information to colleagues and supervisors.
- GS2.** Read and interpret technical documents (SOPs, equipment manuals, safety guidelines).
- GS3.** Write clear and accurate reports, production logs, and quality control documentation.
- GS4.** Calculate and apply basic math for ingredient measurements, process control, and yield calculations.
- GS5.** Solve problems by identifying root causes, proposing solutions, and implementing corrective action
- GS6.** Make decisions based on information analysis, considering product quality and safety.
- GS7.** Plan and organise work activities, prioritising tasks and managing time.
- GS8.** Work effectively in a team, collaborating and sharing information.
- GS9.** Adapt to challenges and changes in production schedules.
- GS10.** Show initiative and take responsibility for tasks and continuous learning.
- GS11.** Maintain a clean and organised work environment, adhering to GMP and hygiene standards.

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate production equipment</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC1.</b> Explain and demonstrate the safe and proper operation of fermenters/incubators, separators, and coolers/chillers in accordance with SOPs.	-	-	-	-
<b>PC2.</b> Monitor tank levels and temperatures and maintain ensure product quality and prevent overflowing or spoilage.	-	-	-	-
<b>PC3.</b> Demonstrate safe and proper use of manual and automated curd and cheese cutting equipment as per SOPs	-	-	-	-
<b>PC4.</b> Operate and adjust filling machines according to SOPs to ensure accurate fill volumes, minimise product waste, and maintain package integrity.	-	-	-	-
<i>Produce cheese</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC5.</b> Receive, inspect, and test raw material for cheese production.	-	-	-	-
<b>PC6.</b> Ensure that quality specifications are met and documentation is in order.	-	-	-	-
<b>PC7.</b> Add starter culture as per cheese recipe at the correct temperature and concentration	-	-	-	-
<b>PC8.</b> Heat the curd-whey mixture to achieve the desired moisture content as per the cheese recipe.	-	-	-	-
<b>PC9.</b> Drain the whey from the curd.	-	-	-	-
<b>PC10.</b> Press the curd using cheese presses with adjustable pressure and time settings.	-	-	-	-
<b>PC11.</b> Salt the cheese by either dry salting or brining.	-	-	-	-
<b>PC12.</b> Store cheese in a ripening/maturation chamber under controlled temperature and humidity for proper flavour and texture development.	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> Monitor and document the ripening environment.	-	-	-	-
<b>PC14.</b> Ensure optimal conditions for the specific cheese type.	-	-	-	-
<b>PC15.</b> Assess cheese quality throughout the ripening process using sensory evaluation and relevant tests.	-	-	-	-
<i>Produce curd</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC16.</b> Receive and inspect raw materials for curd production.	-	-	-	-
<b>PC17.</b> Ensure that quality specifications are met and documentation is in order.	-	-	-	-
<b>PC18.</b> add the right starter culture to the milk at the specific temperature and amount.	-	-	-	-
<b>PC19.</b> Maintain the inoculated milk at the optimal incubation temperature and time.	-	-	-	-
<b>PC20.</b> Track pH, acidity, and texture changes to determine ideal firmness and consistency during curd formation.	-	-	-	-
<b>PC21.</b> Cut the formed curd into small cubes using a curd knife or similar tool	-	-	-	-
<b>PC22.</b> Promote syneresis (whey expulsion) and achieve the desired moisture content and firmness.	-	-	-	-
<b>PC23.</b> Ensure curd reaches the right temperature and cooking time, avoiding overcooking for optimal texture and flavor.	-	-	-	-
<b>PC24.</b> Transfer the cooked curd to a cheesecloth-lined container or mould for effective whey Dno rainage.	-	-	-	-
<b>PC25.</b> Add salt to the drained curd for taste and preservation, following recipe specifications.	-	-	-	-
<i>Produce lassi</i>	<b>5</b>	<b>12</b>	-	<b>3</b>

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC26.</b> Receive, inspect, and test raw material for Lassi production.	-	-	-	-
<b>PC27.</b> Verify quality and documentation.	-	-	-	-
<b>PC28.</b> Inoculate milk/buttermilk with the correct lactic acid bacteria culture dosage.	-	-	-	-
<b>PC29.</b> Ferment the inoculated milk/buttermilk at the recommended temperature	-	-	-	-
<b>PC30.</b> Blend the fermented milk with chilled water until you get the desired consistency for the lassi.	-	-	-	-
<b>PC31.</b> Add salt and spices as per the recipe or desired flavour profile	-	-	-	-
<b>PC32.</b> Chill the lassi to the desired serving temperature and maintain freshness and quality.	-	-	-	-
<i>Produce shrikhand</i>	<b>5</b>	<b>12</b>	-	<b>3</b>
<b>PC33.</b> standardise yogurt using a cream separator to the desired fat content for shrikhand production	-	-	-	-
<b>PC34.</b> check the fat content of the yogurt using a hydrometer/lactometer	-	-	-	-
<b>PC35.</b> drain yoghurt using a muslin cloth or yoghurt strainer and achieve chakka consistency	-	-	-	-
<b>PC36.</b> blend chakka with a planetary mixer or stand mixer with sugar and attain sweetness level.	-	-	-	-
<b>PC37.</b> check sugar concentration using a refractometer	-	-	-	-
<b>PC38.</b> add cardamom powder, saffron, and other desired flavorings.	-	-	-	-
<b>PC39.</b> chill the shrikhand to allow flavors to meld and texture to firm up.	-	-	-	-
<b>NOS Total</b>	<b>25</b>	<b>60</b>	-	<b>15</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2034
<b>NOS Name</b>	Produce Cultured Dairy Products
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	6
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQF Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N2035: Produce Fat-Based Dairy Products

#### Description

This unit equips learners with the skills to produce fat-based dairy products like butter, ghee, whipped cream, khoa, and channa. It focuses on understanding milk fat properties, mastering processing techniques, operating specialized equipment, and maintaining quality control to ensure safe and consistent products.

#### Scope

The scope covers the following :

- The scope covers the following :
- Cream separation
- Butter/ghee production
- Whipped cream production
- Khoa and Channa production

#### Elements and Performance Criteria

##### *Perform Cream Separation*

To be competent, the user/individual on the job must be able to:

- PC1.** Identify factors impacting cream separation, then adjust the separator for best results
- PC2.** operate the separator, adjusting flow and temperature.
- PC3.** watch for alarms, address any issues..
- PC4.** calibrate cream separator parameters to get the right cream fat content, following SOPs.

##### *Produce Butter/Ghee*

To be competent, the user/individual on the job must be able to:

- PC5.** inspect and test raw materials for butter production and meter and filter milk, removing sediment.
- PC6.** separate cream from milk using separator and adjust speed as needed
- PC7.** transfer cream to the holding tank and stir for consistency
- PC8.** test buttercream composition following quality standards
- PC9.** pasteurise cream using controlled steam.
- PC10.** age pasteurised cream under controlled conditions.
- PC11.** Operate churner, adjusting speed and venting until butter forms
- PC12.** check cream quality and weight before transferring it to the churner or clarifying tank
- PC13.** separate and remove buttermilk from the churner after butter formation
- PC14.** wash butter in the churner with chlorinated water and remove buttermilk residue
- PC15.** measure and add salt or salt solution to the churner for salted butter production
- PC16.** adjust churner settings to achieve the desired butter thickness and texture
- PC17.** extrude butter from the churner into the mill or transfer it to the clarifying tank.

## Qualification Pack

- PC18.** sample and test the final product (butter or ghee) for moisture, texture, aroma, taste, and colour fat content and salt content (for butter)
- PC19.** use steam to melt the butter and remove moisture in the clarifying tank for ghee production
- PC20.** pump melted butter into the ghee boiler, maintaining the correct stirrer speed and temperature for ghee production.
- PC21.** position strainers correctly and transfer ghee to the receiving tank, ensuring proper filtration
- PC22.** adjust the holding tank temperature to cool the ghee to the specified temperature
- PC23.** report any malfunctions, discrepancies, or concerns to the department supervisor promptly

### *Produce different types of Cream.*

To be competent, the user/individual on the job must be able to:

- PC24.** receive and inspect raw materials for cream production
- PC25.** ensure quality specifications and documentation compliance
- PC26.** perform the process of cream standardisation to meet specific product requirements
- PC27.** Operate cream separators and standardising equipment
- PC28.** Operate and monitor pasteurisation and homogenisation processes.
- PC29.** Produce light cream by separating and standardising milk.
- PC30.** Produce whipping cream and ensure it whips to the desired volume and stability.
- PC31.** Produce heavy cream suitable for thickening sauces and enriching desserts.
- PC32.** Produce half-and-half by blending milk and cream in appropriate proportions.
- PC33.** Ferment cream (light or heavy) using specific cultures and produce the desired product.
- PC34.** Heat and slowly cool full-fat milk in shallow pans to form a thick layer of clotted cream.
- PC35.** Ferment skimmed or low-fat milk and produce cultured buttermilk with desired tangy flavour and thick consistency.

### *Produce Khoa and Channa*

To be competent, the user/individual on the job must be able to:

- PC36.** Inspect and test raw materials for Khoa/Channa production
- PC37.** Ensure that quality specifications are met and documentation is in order
- PC38.** Operate and control equipment for Khoa production, such as the Karahi (traditional method) or the steam-jacketed kettle (industrial method), ensuring proper heating and stirring.
- PC39.** Stir and scrape Khoa to achieve desired texture and prevent burning
- PC40.** Adjust the heat source and cooking time based on the type of milk and desired Khoa consistency.
- PC41.** Explain the factors that influence the quality, texture, and yield of Khoa/Channa.
- PC42.** Add coagulant (acid or rennet) to milk in the correct proportion for Channa formation
- PC43.** Control Channa coagulation process adjusting the temperature, acidity, and rennet concentration.
- PC44.** Separate the Channa curds from the whey using suitable techniques, ensuring efficient drainage.
- PC45.** Knead and press the Channa curds to remove excess whey and achieve the desired texture.
- PC46.** Identify and address common production issues, such as scorching, uneven coagulation, or undesirable flavours.
- PC47.** Implement corrective actions to maintain product quality and consistency.

## Qualification Pack

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** The fundamental composition of milk, with a focus on milk fat and its impact on the quality and characteristics of fat-based dairy products.
- KU2.** The scientific principles behind key processes in fat-based dairy production, including cream separation, churning, clarification, and homogenisation.
- KU3.** The operation, components, and functions of specialised equipment used in fat-based dairy processing, such as cream separators, churns, butter workers, ghee boilers, and homogenisers.
- KU4.** The significance of milk standardisation and pre-heating in optimising fat separation, product quality, and consistency in fat-based dairy production.
- KU5.** The production processes for various fat-based dairy products, including butter (salted and unsalted), ghee, whipped cream, heavy cream, and half-and-half.
- KU6.** The production techniques for traditional Indian dairy products like khoa and channa, including the use of both traditional (Karahi) and modern (steam-jacketed kettle) methods.
- KU7.** The factors influencing the quality, texture, and yield of fat-based dairy products, such as churning techniques, temperature control, ingredient selection, and cultural practices.
- KU8.** Safety protocols and procedures specific to fat-based dairy processing, including personal protective equipment, hygiene practices, and adherence to standard operating procedures.
- KU9.** Common quality defects in fat-based dairy products, their causes (e.g., rancidity, off-flavors, improper texture in butter, ghee, or cream), and preventive measures.
- KU10.** Quality control tests and their interpretation, essential for assessing the quality of fat-based dairy products, including sensory evaluation, fat content analysis, moisture content analysis, and microbiological testing.
- KU11.** The application of ERP and SCADA systems (if relevant) for data management and process control in fat-based dairy production, enhancing efficiency and traceability.
- KU12.** Packaging materials and methods suitable for fat-based dairy products, considering their impact on product quality, shelf life, and consumer appeal, with attention to specific requirements for products like ghee.
- KU13.** Waste management and by-product utilisation in fat-based dairy processing, focusing on responsible disposal and potential value-added applications for by-products like buttermilk and ghee residue.
- KU14.** The role of continuous improvement and innovation in the fat-based dairy industry, including the adoption of new technologies, processes, and product formulations to meet evolving consumer demands and market trends.
- KU15.** Relevant food safety regulations and standards specific to the production, packaging, and labeling of fat-based dairy products, ensuring compliance and consumer safety.

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Communicate effectively orally and in writing, conveying technical information to colleagues and supervisors.





## Qualification Pack

- GS2.** Read and interpret technical documents (SOPs, equipment manuals, safety guidelines).
- GS3.** Write clear and accurate reports, production logs, and quality control documentation.
- GS4.** Calculate and apply basic math for ingredient measurements, process control, and yield calculations.
- GS5.** Solve problems by identifying root causes, proposing solutions, and implementing corrective actions.
- GS6.** Make decisions based on information analysis, considering product quality and safety.
- GS7.** Plan and organise work activities, prioritising tasks and managing time.
- GS8.** Work effectively in a team, collaborating and sharing information.
- GS9.** Adapt to challenges and changes in production schedules.
- GS10.** Show initiative and take responsibility for tasks and continuous learning.

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform Cream Separation</i>	<b>3</b>	<b>15</b>	-	<b>2</b>
<b>PC1.</b> Identify factors impacting cream separation, then adjust the separator for best results	-	-	-	-
<b>PC2.</b> operate the separator, adjusting flow and temperature.	-	-	-	-
<b>PC3.</b> watch for alarms, address any issues..	-	-	-	-
<b>PC4.</b> calibrate cream separator parameters to get the right cream fat content, following SOPs.	-	-	-	-
<i>Produce Butter/Ghee</i>	<b>8</b>	<b>15</b>	-	<b>5</b>
<b>PC5.</b> inspect and test raw materials for butter production and meter and filter milk, removing sediment.	-	-	-	-
<b>PC6.</b> separate cream from milk using separator and adjust speed as needed	-	-	-	-
<b>PC7.</b> transfer cream to the holding tank and stir for consistency	-	-	-	-
<b>PC8.</b> test buttercream composition following quality standards	-	-	-	-
<b>PC9.</b> pasteurise cream using controlled steam.	-	-	-	-
<b>PC10.</b> age pasteurised cream under controlled conditions.	-	-	-	-
<b>PC11.</b> Operate churner, adjusting speed and venting until butter forms	-	-	-	-
<b>PC12.</b> check cream quality and weight before transferring it to the churner or clarifying tank	-	-	-	-
<b>PC13.</b> separate and remove buttermilk from the churner after butter formation	-	-	-	-
<b>PC14.</b> wash butter in the churner with chlorinated water and remove buttermilk residue	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC15.</b> measure and add salt or salt solution to the churner for salted butter production	-	-	-	-
<b>PC16.</b> adjust churner settings to achieve the desired butter thickness and texture	-	-	-	-
<b>PC17.</b> extrude butter from the churner into the mill or transfer it to the clarifying tank.	-	-	-	-
<b>PC18.</b> sample and test the final product (butter or ghee) for moisture, texture, aroma, taste, and colour fat content and salt content (for butter)	-	-	-	-
<b>PC19.</b> use steam to melt the butter and remove moisture in the clarifying tank for ghee production	-	-	-	-
<b>PC20.</b> pump melted butter into the ghee boiler, maintaining the correct stirrer speed and temperature for ghee production.	-	-	-	-
<b>PC21.</b> position strainers correctly and transfer ghee to the receiving tank, ensuring proper filtration	-	-	-	-
<b>PC22.</b> adjust the holding tank temperature to cool the ghee to the specified temperature	-	-	-	-
<b>PC23.</b> report any malfunctions, discrepancies, or concerns to the department supervisor promptly	-	-	-	-
<i>Produce different types of Cream.</i>	<b>7</b>	<b>15</b>	-	<b>4</b>
<b>PC24.</b> receive and inspect raw materials for cream production	-	-	-	-
<b>PC25.</b> ensure quality specifications and documentation compliance	-	-	-	-
<b>PC26.</b> perform the process of cream standardisation to meet specific product requirements	-	-	-	-
<b>PC27.</b> Operate cream separators and standardising equipment	-	-	-	-
<b>PC28.</b> Operate and monitor pasteurisation and homogenisation processes.	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC29.</b> Produce light cream by separating and standardising milk.	-	-	-	-
<b>PC30.</b> Produce whipping cream and ensure it whips to the desired volume and stability.	-	-	-	-
<b>PC31.</b> Produce heavy cream suitable for thickening sauces and enriching desserts.	-	-	-	-
<b>PC32.</b> Produce half-and-half by blending milk and cream in appropriate proportions.	-	-	-	-
<b>PC33.</b> Ferment cream (light or heavy) using specific cultures and produce the desired product.	-	-	-	-
<b>PC34.</b> Heat and slowly cool full-fat milk in shallow pans to form a thick layer of clotted cream.	-	-	-	-
<b>PC35.</b> Ferment skimmed or low-fat milk and produce cultured buttermilk with desired tangy flavour and thick consistency.	-	-	-	-
<i>Produce Khoa and Channa</i>	<b>7</b>	<b>15</b>	-	<b>4</b>
<b>PC36.</b> Inspect and test raw materials for Khoa/Channa production	-	-	-	-
<b>PC37.</b> Ensure that quality specifications are met and documentation is in order	-	-	-	-
<b>PC38.</b> Operate and control equipment for Khoa production, such as the Karahi (traditional method) or the steam-jacketed kettle (industrial method), ensuring proper heating and stirring.	-	-	-	-
<b>PC39.</b> Stir and scrape Khoa to achieve desired texture and prevent burning	-	-	-	-
<b>PC40.</b> Adjust the heat source and cooking time based on the type of milk and desired Khoa consistency.	-	-	-	-
<b>PC41.</b> Explain the factors that influence the quality, texture, and yield of Khoa/Channa.	-	-	-	-
<b>PC42.</b> Add coagulant (acid or rennet) to milk in the correct proportion for Channa formation	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC43.</b> Control Channa coagulation process adjusting the temperature, acidity, and rennet concentration.	-	-	-	-
<b>PC44.</b> Separate the Channa curds from the whey using suitable techniques, ensuring efficient drainage.	-	-	-	-
<b>PC45.</b> Knead and press the Channa curds to remove excess whey and achieve the desired texture.	-	-	-	-
<b>PC46.</b> Identify and address common production issues, such as scorching, uneven coagulation, or undesirable flavours.	-	-	-	-
<b>PC47.</b> Implement corrective actions to maintain product quality and consistency.	-	-	-	-
<b>NOS Total</b>	<b>25</b>	<b>60</b>	-	<b>15</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2035
<b>NOS Name</b>	Produce Fat-Based Dairy Products
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N2036: Produce Frozen Dairy Products

#### Description

This NOS equips learners to produce various frozen dairy treats, from ice cream to frozen custard. Learners master ingredient science, freezing processes, equipment operation, and quality control to create delicious and safe frozen products.

#### Scope

The scope covers the following :

- The scope of this unit encompasses:
- Equipment Operation and Maintenance
- Ice Cream Production
- Frozen Yogurt Production

#### Elements and Performance Criteria

##### *Produce Ice Cream*

To be competent, the user/individual on the job must be able to:

- PC1.** Receive raw material for ice cream production, verify and inspect delivery, visually inspect the material and measure relevant parameters, sample and test.
- PC2.** Measure and transfer liquid ingredients into the mixing tank following SOPs.
- PC3.** Adjust the agitator speed to mix liquid ingredients.
- PC4.** Weigh, pre-blend, and add dry ingredients to the mixing tank.
- PC5.** Mix dry and wet ingredients to create the ice cream mix.
- PC6.** Pump the ice cream mix into the pasteurisation tank.
- PC7.** Heat the mix using steam, controlling pressure and agitator speed.
- PC8.** Transfer the pasteurised mix to the homogeniser and homogenise at high pressure.
- PC9.** Cool the homogenised mix using heat exchangers.
- PC10.** Transfer the cooled mix to a refrigerated storage tank for ageing.
- PC11.** Measure and add flavour and colour to the aged mix.
- PC12.** Pass the flavoured mix into the dynamic freezer and freeze to the required temperature.
- PC13.** Whip the ice cream mix in the freezer to incorporate air and achieve a smooth texture.
- PC14.** Check the quality of the ice cream through physical parameters.
- PC15.** Prepare coating material for ice cream.
- PC16.** Prepare centre-filling material
- PC17.** Fill soft-serve ice cream directly into cones or containers.
- PC18.** Inject centre filling material into ice cream
- PC19.** Transfer packaged ice cream to the hardening room for hardening.
- PC20.** Transfer hardened ice cream to frozen storage.
- PC21.** Fill ice cream moulds, insert sticks, harden, and coat (for coated ice creams).

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- PC22.** Extrude ice cream into desired shapes, insert sticks, and cut into portions.
- PC23.** Deposit ice cream onto conveyor belts for hardening in tunnels or spiral freezers.
- PC24.** Control conveyor speed, depositing machine speed, and hardening tunnel/freezer temperature.

### *Produce Frozen Yoghurt*

To be competent, the user/individual on the job must be able to:

- PC25.** Receive, inspect, and test raw material for Frozen Yoghurt production.
- PC26.** Select high-quality yoghurt cultures specifically formulated for frozen yoghurt production,
- PC27.** Prepare the frozen yoghurt mix by accurately measuring and combining ingredients
- PC28.** Pasteurise the frozen yoghurt mix at a lower temperature and shorter duration
- PC29.** Preserve the viability of probiotic cultures and maintain the desired flavour and texture.
- PC30.** Cool the mix to the appropriate incubation temperature
- PC31.** Incubate the inoculated mix for the specified time
- PC32.** Allow fermentation to develop frozen yoghurt's characteristic tangy flavour and acidity.
- PC33.** Cool the fermented mix further to a temperature suitable for freezing
- PC34.** Freeze the mix in a continuous or batch freezer, controlling overrun and ice crystal size
- PC35.** Achieve the desired consistency and texture.
- PC36.** Add flavourings and variegates to the frozen yoghurt as per SOPs

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** The role and functions of key ingredients used in frozen dairy products, such as milk fat, milk solids-not-fat (MSNF), sweeteners, stabilisers, emulsifiers, and flavourings, and how they contribute to product quality and stability.
- KU2.** The scientific principles behind the freezing process in frozen dairy production include ice crystal formation, overrun, and the impact of freezing rates on product texture.
- KU3.** The regulatory requirements and standards for frozen dairy products include compositional standards, labelling regulations, and food safety guidelines.
- KU4.** The various types of freezing equipment used in producing frozen dairy products (batch freezers, continuous freezers, hardening tunnels), their operating principles, and the advantages and disadvantages of each.
- KU5.** The importance of pasteurisation and homogenisation in producing frozen dairy mixes emphasises their role in ensuring product safety and achieving the desired texture and consistency.
- KU6.** The concept of ageing the ice cream mix and its impact on flavour development, texture improvement, and stabiliser functionality.
- KU7.** The different types of sweeteners used in frozen dairy products, their relative sweetness levels, and their impact on freezing point depression and product texture.
- KU8.** The different stabilisers and emulsifiers used in frozen dairy products and their role in controlling ice crystal growth, preventing syneresis, and improving overall texture and stability.



## Qualification Pack

- KU9.** The principles of proper storage and handling of frozen dairy products to maintain quality, prevent ice crystal growth, and ensure food safety throughout the distribution chain.
- KU10.** The importance of regular maintenance and calibration of equipment used in frozen dairy production, including freezers, pasteurisers, homogenisers, and filling machines, to ensure consistent product quality and prevent breakdowns.
- KU11.** The different packaging materials suit frozen dairy products, considering their barrier properties, aesthetic appeal, and environmental impact.
- KU12.** The principles of effective inventory management for frozen dairy products, including FIFO (first-in, first-out) rotation and proper storage conditions to minimise waste and ensure product quality.
- KU13.** The concept of food safety hazards in frozen dairy production, such as microbial contamination, physical hazards (e.g., foreign objects), and chemical hazards (e.g., allergens), and describe preventive measures to mitigate these risks.
- KU14.** Common quality defects in frozen dairy products include iciness, shrinkage, sandiness, and flavour defects, and their causes and preventive measures.
- KU15.** The importance of accurate labelling of frozen dairy products, adhering to regulatory requirements and providing consumers with clear and comprehensive information about ingredients, nutritional content, allergens, and storage instructions.
- KU16.** The role of sensory evaluation in assessing frozen dairy product quality, recognising the importance of a trained sensory panel and standardised evaluation methods.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Communicate effectively orally and in writing, conveying technical information, instructions, and feedback to colleagues, supervisors, and other stakeholders.
- GS2.** Read and interpret technical documents, such as SOPs, equipment manuals, and safety guidelines.
- GS3.** Write clear and accurate reports, production logs, and quality control documentation.
- GS4.**
- Calculate and apply mathematical concepts (percentages, ratios, conversions) for ingredient measurements and yield calculations.
  -
- GS5.** Solve problems systematically by identifying root causes, proposing solutions, and implementing corrective actions.
- GS6.** Make decisions based on a logical information analysis, considering the impact on product quality and safety.
- GS7.** Plan and organise work activities, prioritising tasks and managing time effectively.
- GS8.** Work effectively in a team, collaborating with colleagues and sharing information.
- GS9.** Demonstrate adaptability and flexibility in responding to unexpected challenges.
- GS10.** Show initiative and take responsibility for completing tasks and continuously improving skills.

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Produce Ice Cream</i>	<b>20</b>	<b>35</b>	-	<b>5</b>
<b>PC1.</b> Receive raw material for ice cream production, verify and inspect delivery, visually inspect the material and measure relevant parameters, sample and test.	-	-	-	-
<b>PC2.</b> Measure and transfer liquid ingredients into the mixing tank following SOPs.	-	-	-	-
<b>PC3.</b> Adjust the agitator speed to mix liquid ingredients.	-	-	-	-
<b>PC4.</b> Weigh, pre-blend, and add dry ingredients to the mixing tank.	-	-	-	-
<b>PC5.</b> Mix dry and wet ingredients to create the ice cream mix.	-	-	-	-
<b>PC6.</b> Pump the ice cream mix into the pasteurisation tank.	-	-	-	-
<b>PC7.</b> Heat the mix using steam, controlling pressure and agitator speed.	-	-	-	-
<b>PC8.</b> Transfer the pasteurised mix to the homogeniser and homogenise at high pressure.	-	-	-	-
<b>PC9.</b> Cool the homogenised mix using heat exchangers.	-	-	-	-
<b>PC10.</b> Transfer the cooled mix to a refrigerated storage tank for ageing.	-	-	-	-
<b>PC11.</b> Measure and add flavour and colour to the aged mix.	-	-	-	-
<b>PC12.</b> Pass the flavoured mix into the dynamic freezer and freeze to the required temperature.	-	-	-	-
<b>PC13.</b> Whip the ice cream mix in the freezer to incorporate air and achieve a smooth texture.	-	-	-	-
<b>PC14.</b> Check the quality of the ice cream through physical parameters.	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC15.</b> Prepare coating material for ice cream.	-	-	-	-
<b>PC16.</b> Prepare centre-filling material	-	-	-	-
<b>PC17.</b> Fill soft-serve ice cream directly into cones or containers.	-	-	-	-
<b>PC18.</b> Inject centre filling material into ice cream	-	-	-	-
<b>PC19.</b> Transfer packaged ice cream to the hardening room for hardening.	-	-	-	-
<b>PC20.</b> Transfer hardened ice cream to frozen storage.	-	-	-	-
<b>PC21.</b> Fill ice cream moulds, insert sticks, harden, and coat (for coated ice creams).	-	-	-	-
<b>PC22.</b> Extrude ice cream into desired shapes, insert sticks, and cut into portions.	-	-	-	-
<b>PC23.</b> Deposit ice cream onto conveyor belts for hardening in tunnels or spiral freezers.	-	-	-	-
<b>PC24.</b> Control conveyor speed, depositing machine speed, and hardening tunnel/freezer temperature.	-	-	-	-
<i>Produce Frozen Yoghurt</i>	<b>15</b>	<b>20</b>	-	<b>5</b>
<b>PC25.</b> Receive, inspect, and test raw material for Frozen Yoghurt production.	-	-	-	-
<b>PC26.</b> Select high-quality yoghurt cultures specifically formulated for frozen yoghurt production,	-	-	-	-
<b>PC27.</b> Prepare the frozen yoghurt mix by accurately measuring and combining ingredients	-	-	-	-
<b>PC28.</b> Pasteurise the frozen yoghurt mix at a lower temperature and shorter duration	-	-	-	-
<b>PC29.</b> Preserve the viability of probiotic cultures and maintain the desired flavour and texture.	-	-	-	-
<b>PC30.</b> Cool the mix to the appropriate incubation temperature	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC31.</b> Incubate the inoculated mix for the specified time	-	-	-	-
<b>PC32.</b> Allow fermentation to develop frozen yoghurt's characteristic tangy flavour and acidity.	-	-	-	-
<b>PC33.</b> Cool the fermented mix further to a temperature suitable for freezing	-	-	-	-
<b>PC34.</b> Freeze the mix in a continuous or batch freezer, controlling overrun and ice crystal size	-	-	-	-
<b>PC35.</b> Achieve the desired consistency and texture.	-	-	-	-
<b>PC36.</b> Add flavourings and variegates to the frozen yoghurt as per SOPs	-	-	-	-
<b>NOS Total</b>	<b>35</b>	<b>55</b>	-	<b>10</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2036
<b>NOS Name</b>	Produce Frozen Dairy Products
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Qualification Pack

### FIC/N2037: Produce Condensed Dairy Products

#### Description

This unit equips learners with the knowledge and skills to produce condensed products, ensuring quality, safety, and regulatory standards compliance. It emphasises the processor's role in understanding the principles of concentration and drying, operating specialised equipment, and maintaining strict quality control to create safe, consistent, and nutritious dairy products.

#### Scope

The scope covers the following :

- The scope of this unit encompasses:
- Equipment operation and maintenance:
- Condensed milk production
- Quality assurance and recordkeeping

#### Elements and Performance Criteria

##### *Operate Production Equipment*

To be competent, the user/individual on the job must be able to:

- PC1.** Identify and describe the function of equipment used in condensed and dried dairy processing.
- PC2.** Demonstrate safe and proper equipment operation according to SOPs and manufacturer guidelines.
- PC3.** Utilise displays, control panels, and sensor data to monitor and control equipment performance, adjusting parameters as needed.
- PC4.** Interpret alarms and warnings, diagnose and troubleshoot malfunctions, perform basic repairs or escalate issues.
- PC5.**
  - Develop and implement preventive maintenance schedules for all equipment, including cleaning, lubrication, inspection, and calibration.
- PC6.** Maintain records of equipment maintenance, repairs, and calibrations.

##### *Produce condensed milk*

To be competent, the user/individual on the job must be able to:

- PC7.** Receive raw material for condensed milk production, verify and inspect delivery, visually inspect the material and measure relevant parameters, sample and test.
- PC8.** Ensure that quality specifications are met and documentation is in order
- PC9.** Prepare milk by standardising fat and solids-not-fat (SNF) content per the desired condensed milk type (whole, skim, or low-fat).
- PC10.** Pre-heat milk to inactivate enzymes and improve heat stability.
- PC11.** Concentrate milk in a vacuum evaporator and reduce water content to the desired level.
- PC12.** Calculate the required amount of sugar based on the desired final product characteristics.
- PC13.** Add sugar to the concentrated milk under controlled conditions
- PC14.** Ensure dissolution and prevent crystallisation.

## Qualification Pack

- PC15.** Continue concentrating on the milk and achieve higher total solids content for shelf stability.
- PC16.** Homogenize condensed milk to prevent fat separation during storage.
- PC17.** Cool the condensed milk and package it in the appropriate containers
- PC18.** Apply proper labelling with product name, ingredients, nutritional information, batch code, and expiry date.
- PC19.** Utilise sterile filling techniques and pre-sterilised containers for aseptic packaging.

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** The basic principles of milk composition and its impact on the quality and properties of condensed and dried dairy products.
- KU2.** The different types of condensed milk (sweetened, unsweetened/evaporated) and their respective applications in the food industry.
- KU3.** The scientific principles behind the concentration and drying processes of condensed and dried dairy products.
- KU4.** The operating principles, components, and functions of various equipment used in condensed and dried dairy processing, including evaporators, spray dryers, roller dryers, homogenisers, and separators.
- KU5.** Milk standardisation and pre-heating are important in producing condensed dairy products.
- KU6.** The different packaging materials and methods used for condensed dairy products, considering their impact on product quality, shelf life, and consumer appeal.
- KU7.** The safety hazards associated with equipment operation in condensed dairy processing include high temperatures, pressure, and moving parts.
- KU8.** The personal protective equipment (PPE) required for safe operation in the production environment, such as safety glasses, gloves, and protective clothing.
- KU9.** The importance of following standard operating procedures (SOPs) and good manufacturing practices (GMP) to ensure product safety, quality, and consistency.
- KU10.** Common quality defects in condensed dairy products, such as off-flavours, browning, caking, and contamination, their causes, and preventive measures
- KU11.** The quality control tests used to assess the quality of condensed dairy products include sensory evaluation, fat content determination, moisture content analysis, and microbiological testing.
- KU12.** Interpretation of quality control data, identification of deviations from specified standards, and appropriate corrective actions to maintain product quality and safety.
- KU13.** The role of ERP (Enterprise Resource Planning) and SCADA (Supervisory Control and Data Acquisition) systems in manag
- KU14.** The use of barcodes and RFID (Radio Frequency Identification) technology for product traceability, inventory management, and quality control in the dairy industry.
- KU15.** The relevant food safety regulations and standards apply to condensed dairy products' production, packaging, and labelling.
- KU16.** Waste management and by-product utilisation are important in the dairy industry, focusing on responsible disposal and value-added applications of whey, lactose, and other by-products.

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**KU17.** The role of continuous improvement and innovation in the dairy industry, including adopting new technologies, processes, and product formulations to meet evolving consumer demands and market trends.

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Communicate effectively in spoken and written English, clearly articulating technical information, instructions, and ideas to colleagues, supervisors, and other stakeholders.
- GS2.** Interpret and apply written information from standard operating procedures (SOPs), equipment manuals, safety guidelines, and quality control protocols to ensure safe and efficient production processes.
- GS3.** Record and document production data, quality control results, equipment maintenance logs, and other relevant information accurately and legibly using appropriate formats and systems (e.g., logbooks, computer software)
- GS4.** Analyse and interpret technical data, such as graphs, charts, and tables, related to production parameters (e.g., temperature, pH, fat content) to assess product quality, identify trends, and make informed decisions.
- GS5.** Calculate and apply basic mathematical concepts, such as percentages, ratios, and conversions, to accurately measure and adjust ingredients, monitor process parameters, and calculate yields.
- GS6.** Solve problems effectively by identifying the root cause, generating potential solutions, evaluating their feasibility, and implementing the most appropriate course of action.
- GS7.** Make decisions based on a logical analysis of available information, considering the impact of decisions on product quality, safety, and production efficiency.
- GS8.** Plan and organise work activities, prioritise tasks, manage time effectively, and coordinate with team members to ensure smooth and efficient production flow.
- GS9.** Demonstrate adaptability and flexibility in responding to unexpected challenges or changes in production schedules while maintaining a positive attitude and focus on solutions.
- GS10.** Work effectively as a team, collaborating with colleagues, sharing information, and supporting each other to achieve common goals.
- GS11.** Show initiative, take responsibility for completing tasks, seek help, and continuously learn and improve skills.
- GS12.** Maintain a clean and organised work environment, adhering to good manufacturing practices (GMP) and hygiene standards to ensure product safety and quality.
- GS13.** Follow safety protocols and procedures, use personal protective equipment (PPE) correctly, and promptly report any safety hazards or concerns to supervisors.
- GS14.** Demonstrate a customer-centric approach, understanding customer needs and expectations and striving to produce high-quality dairy products that meet or exceed those expectations.



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate Production Equipment</i>	<b>5</b>	<b>20</b>	-	<b>7</b>
<b>PC1.</b> Identify and describe the function of equipment used in condensed and dried dairy processing.	-	-	-	-
<b>PC2.</b> Demonstrate safe and proper equipment operation according to SOPs and manufacturer guidelines.	-	-	-	-
<b>PC3.</b> Utilise displays, control panels, and sensor data to monitor and control equipment performance, adjusting parameters as needed.	-	-	-	-
<b>PC4.</b> Interpret alarms and warnings, diagnose and troubleshoot malfunctions, perform basic repairs or escalate issues.	-	-	-	-
<b>PC5.</b> <ul style="list-style-type: none"> <li>Develop and implement preventive maintenance schedules for all equipment, including</li> <li>cleaning, lubrication, inspection, and calibration.</li> </ul>	-	-	-	-
<b>PC6.</b> Maintain records of equipment maintenance, repairs, and calibrations.	-	-	-	-
<i>Produce condensed milk</i>	<b>20</b>	<b>40</b>	-	<b>8</b>
<b>PC7.</b> Receive raw material for condensed milk production, verify and inspect delivery, visually inspect the material and measure relevant parameters, sample and test.	-	-	-	-
<b>PC8.</b> Ensure that quality specifications are met and documentation is in order	-	-	-	-
<b>PC9.</b> Prepare milk by standardising fat and solids-not-fat (SNF) content per the desired condensed milk type (whole, skim, or low-fat).	-	-	-	-
<b>PC10.</b> Pre-heat milk to inactivate enzymes and improve heat stability.	-	-	-	-
<b>PC11.</b> Concentrate milk in a vacuum evaporator and reduce water content to the desired level.	-	-	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> Calculate the required amount of sugar based on the desired final product characteristics.	-	-	-	-
<b>PC13.</b> Add sugar to the concentrated milk under controlled conditions	-	-	-	-
<b>PC14.</b> Ensure dissolution and prevent crystallisation.	-	-	-	-
<b>PC15.</b> Continue concentrating on the milk and achieve higher total solids content for shelf stability.	-	-	-	-
<b>PC16.</b> Homogenize condensed milk to prevent fat separation during storage.	-	-	-	-
<b>PC17.</b> Cool the condensed milk and package it in the appropriate containers	-	-	-	-
<b>PC18.</b> Apply proper labelling with product name, ingredients, nutritional information, batch code, and expiry date.	-	-	-	-
<b>PC19.</b> Utilise sterile filling techniques and pre-sterilised containers for aseptic packaging.	-	-	-	-
<b>NOS Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N2037
<b>NOS Name</b>	Produce Condensed Dairy Products
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	
<b>Occupation</b>	Processing-Dairy Products
<b>NSQF Level</b>	4
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/08/2024
<b>Next Review Date</b>	26/08/2027
<b>NSQC Clearance Date</b>	27/08/2024

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

## Qualification Pack

**Minimum Aggregate Passing % at QP Level : 70**

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

## Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N9026.Prepare for production	30	70	-	-	100	10
FIC/N2032.Produce Toned, Fat, Low-Fat, and Flavored Milk	25	60	0	15	100	30
FIC/N2033.Carry Out Post-Production Activities	25	60	0	15	100	20
FIC/N9906.Apply food safety guidelines in Food Processing	30	60	-	10	100	5
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
<b>Total</b>	<b>130</b>	<b>280</b>	<b>-</b>	<b>40</b>	<b>450</b>	<b>70</b>

Elective: 1 Produce Cultured Dairy Products

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N2034.Produce Cultured Dairy Products	25	60	0	15	100	30
<b>Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>	<b>100</b>	<b>30</b>

Elective: 2 Produce Fat- Based Dairy Products

### Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N2035.Produce Fat-Based Dairy Products	25	60	0	15	100	30
<b>Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>	<b>100</b>	<b>30</b>

Elective: 3 Produce Frozen Dairy Products

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N2036.Produce Frozen Dairy Products	35	55	0	10	100	30
<b>Total</b>	<b>35</b>	<b>55</b>	<b>-</b>	<b>10</b>	<b>100</b>	<b>30</b>

Elective: 4 Produce Condensed Dairy Products

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N2037.Produce Condensed Dairy Products	25	60	0	15	100	30
<b>Total</b>	<b>25</b>	<b>60</b>	<b>-</b>	<b>15</b>	<b>100</b>	<b>30</b>

## Qualification Pack

### Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skill Qualification Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>MLF</b>	Malolactic Fermentation
<b>TA</b>	Titrateable Acid
<b>pH</b>	Power of Hydrogen
<b>FSSAI</b>	Food Safety and Standards Authority of India
<b>GMPs</b>	Good Manufacturing Practices
<b>HACCP</b>	Hazard Analysis Critical Control Point
<b>VACCP</b>	Vulnerability Assessment Critical Control Points
<b>TACCP</b>	Threat Assessment Critical Control Points
<b>RCA</b>	Root Cause Analysis
<b>CAPA</b>	Corrective Action Preventive Action
<b>PPE</b>	Personal Protective Equipment
<b>CPR</b>	Cardio-Pulmonary Resuscitation
<b>GHP</b>	Good Hygiene Practices

## Qualification Pack

<b>SOPs</b>	Standard Operating Procedures
<b>PwD</b>	People with Disabilities
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skill Qualification Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>MLF</b>	Malolactic Fermentation
<b>TA</b>	Titrateable Acid
<b>pH</b>	Power of Hydrogen
<b>FSSAI</b>	Food Safety and Standards Authority of India
<b>GMPs</b>	Good Manufacturing Practices
<b>HACCP</b>	Hazard Analysis Critical Control Point
<b>VACCP</b>	Vulnerability Assessment Critical Control Points
<b>TACCP</b>	Threat Assessment Critical Control Points
<b>RCA</b>	Root Cause Analysis
<b>CAPA</b>	Corrective Action Preventive Action
<b>PPE</b>	Personal Protective Equipment
<b>CPR</b>	Cardio-Pulmonary Resuscitation
<b>GHP</b>	Good Hygiene Practices
<b>SOPs</b>	Standard Operating Procedures
<b>PwD</b>	People with Disabilities

## Qualification Pack

### Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.



## Qualification Pack

<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
<b>Sector</b>	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-Sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standard</b>	NOS are occupational standards which apply uniquely in the Indian context.

## Qualification Pack

<b>Qualification Pack</b>	QP comprises the set of OS, together with the educational, training, and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'.
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge &amp; Understanding (KU)</b>	Knowledge and Understanding (KU) are statements that together specify, the technical, generic, professional, and organizational specific knowledge that an individual needs in order to perform to the required standard.
<b>Organizational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers has of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/Generic skills</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication-related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
<b>Sector</b>	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-Sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.

## Qualification Pack

<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standard</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualification Pack</b>	QP comprises the set of OS, together with the educational, training, and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'.
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge &amp; Understanding (KU)</b>	Knowledge and Understanding (KU) are statements that together specify, the technical, generic, professional, and organizational specific knowledge that an individual needs in order to perform to the required standard.
<b>Organizational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers has of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

## Qualification Pack

<b>Core Skills/Generic skills</b>	<p>Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication-related skills that are applicable to most job roles.</p>
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<b>Options</b>	<p>Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.</p>