



Model Curriculum

QP Name: Cottage Cheese Maker

QP Code: FIC/Q2005

QP Version: 1.0

NSQF Level: 3

Model Curriculum Version: 1.0

FOOD INDUSTRY CAPACITY & SKILL INITIATIVE (FICSI),
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Training Parameters

| | |
|---|---|
| Sector | Food Processing |
| Sub-Sector | Dairy Products |
| Occupation | Processing |
| Country | India |
| NSQF Level | 3 |
| Aligned to NCO/ISCO/ISIC Code | NCO-2004/ 7413.40 |
| Minimum Educational Qualification and Experience | 1. Class 10th passed 2. Class 8th passed and 2 years of dairy experience |
| Pre-Requisite License or Training | Not Applicable |
| Minimum Job Entry Age | 18 years |
| Last Reviewed On | 30/07/2021 |
| Next Review Date | 30/07/2024 |
| NSQC Approval Date | NA |
| QP Version | 1.0 |
| Model Curriculum Creation Date | 30/07/2021 |
| Model Curriculum Valid Up to Date | 30/07/2024 |
| Model Curriculum Version | 1.0 |
| Minimum Duration of the Course | 280 + 40 OJT Hours |
| Maximum Duration of the Course | 280 + 40 OJT Hours |

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the participants will be able to:

- Prepare and maintain work area and process machineries
- Produce cottage cheese (Paneer) following specification and standards of the organization
- Carry out documentation and record keeping related to production
- Follow food safety and hygiene standards at workplace .

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

| NOS and Module Details | Theory Duration | Practical Duration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
|---|--------------------|--------------------|--|--|--------------------|
| Bridge Module | 35:00 Hours | 22:00 Hours | 00:00 Hours | 00:00 Hours | 57:00 Hours |
| Module 1: Introduction to Training Program and Overview of Food Processing Industry | 03:00 Hours | 00:00 Hours | 00:00 Hours | 00:00 Hours | 03:00 Hours |
| Module 2: Professional and Core Skills | 04:00 Hours | 10:00 Hours | 00:00 Hours | 00:00 Hours | 14:00 Hours |
| Module 9: Employability and Entrepreneurship skills | 28:00 Hours | 12:00 Hours | 00:00 Hours | 00:00 Hours | 40:00 Hours |
| FIC/N2017 Prepare and maintain work area and process machineries for production of cottage cheese NOS Version No.: 1.0 NSQF Level: 3 | 17:00 Hours | 30:00 Hours | 00:00 Hours | 00:00 Hours | 47:00 Hours |
| Module 3: Prepare and maintain work area and process machineries for production of cottage cheese | 17:00 Hours | 30:00 Hours | 00:00 Hours | 00:00 Hours | 47:00 Hours |
| FIC/N2018 Production of cottage cheese (paneer) NOS Version No.: 1.0 NSQF Level: 3 | 30:00 Hours | 50:00 Hours | 00:00 Hours | 00:00 Hours | 80:00 Hours |
| Module 4: Organizational Standards and Norms | 10:00 Hours | 10:00 Hours | 00:00 Hours | 00:00 Hours | 20:00 Hours |

| | | | | | |
|---|-------------------------|-------------------------|--------------------|--------------------|-------------------------|
| Module 5: Production of cottage cheese (paneer) | 20:00 Hours | 40:00 Hours | 00:00 Hours | 00:00 Hours | 60:00 Hours |
| FIC/N2019 Complete documentation and record keeping related to production of cottage cheese NOS Version No.: 1.0 NSQF Level: 3 | 14:00 Hours | 27:00 Hours | 00:00 Hours | 00:00 Hours | 41:00 Hours |
| Module 6: Complete documentation and record keeping related to production of cottage cheese | 10:00 Hours | 07:00 Hours | 00:00 Hours | 00:00 Hours | 17:00 Hours |
| Module 7: IT Orientation | 04:00 Hours | 20:00 Hours | 00:00 Hours | 00:00 Hours | 24:00 Hours |
| FIC/N9001 Food Safety, Hygiene and Sanitation for Packaging Food Products NOS Version No.: 1.0 NSQF Level: 3 | 20:00 Hours | 35:00 Hours | 00:00 Hours | 00:00 Hours | 55:00 Hours |
| Module 8: Food Safety, Hygiene and Sanitation for Packaging Food Products | 20:00 Hours | 35:00 Hours | 00:00 Hours | 00:00 Hours | 55:00 Hours |
| Total Duration | 116:00 Hours | 164:00 Hours | 00:00 Hours | 00:00 Hours | 280:00 Hours |

Module Details

Module 1: Introduction to Training Program and Overview of Food Processing Industry

Bridge Module

Terminal Outcomes:

- Introduce to fellow participants and the trainer.

| | |
|---|--|
| Duration: 03:00 | Duration: 00:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • State the need and importance of training program • Define food processing. • List the various sub sectors of food processing industry. • Define dairy processing. • List the various units within a dairy processing unit. • State the methods of testing milk for accepted quality standards • State the need for processing of milk • State the composition and nutritive value of milk | |
| Classroom Aids: | |
| White board/Chart papers, marker. | |
| Tools, Equipment and Other Requirements | |
| Nil | |

Module 2: Professional and Core Skills

Bridge Module

Terminal Outcomes:

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

| | |
|---|--|
| Duration: 04:00 | Duration: 10:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Identify personal strengths and weaknesses. • State the importance of decision making in the job. • State the importance of communicating effectively. • State the importance of listening. • State the importance of reading skills. | <ul style="list-style-type: none"> • Apply standard practice to undertake a self-assessment test for identifying strengths and weaknesses. • Plan and prioritise tasks effectively to ensure timely completion. • Demonstrate the ways to analyse situations for identifying problems and making sound decision promptly. |
| Classroom Aids: | |
| Laptop, white/black board, marker, chart papers, projector, Trainer's guide, Student manual. | |
| Tools, Equipment and Other Requirements | |
| Nil | |

Module 3: Prepare and maintain work area and process machineries for production of cottage cheese

Mapped to FIC/N2017 v1.0

Terminal Outcomes:

- Prepare work area and process machineries required for production of dairy products.

| | |
|---|---|
| Duration: 17:00 | Duration: 30:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Describe the importance of cleanliness of the work area • Check if the work area is cleaned using approved sanitizers • Check if the equipment are washed with approved sanitizers • State the materials and equipment used in the cleaning and maintenance of the work area • State the common detergents and sanitizers used in cleaning work area and machineries • State the different types of maintenance procedures | <ul style="list-style-type: none"> • Check if the work area is safe and hygienic for food production • Check if the disposal of waste material is as per SOP • Check the working and performance of all machineries and tools used for fruits and vegetables processing • Conduct minor repairs and faults in process machineries • Prepare the machines and tools required for production |
| Classroom Aids: | |
| Laptop, white/black board, marker, chart papers, projector, Trainer's guide, Student manual. | |
| Tools, Equipment and Other Requirements | |
| Homogenizer, Separator, Pasteurizer, Churner, Paneer Hooves, Paneer cutter Packaging Machines, Protective Gloves, Head Caps, Lab Coat, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual | |

Module 4: Organizational standards and norms

Mapped to FIC/N2018 v1.0

Terminal Outcomes:

- Discuss the attributes of Cottage Cheese Maker.
- Demonstrate the standard measures undertaken for working effectively
- Describe importance of personal hygiene and sanitation

| | |
|--|---|
| Duration: 10:00 | Duration: 10:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Describe how to conduct yourself at the workplace. • State the roles and responsibilities of Cottage Cheese Maker • Describe the personal hygiene and sanitation guidelines to be followed at the workplace. • State the food safety hygiene standards followed • Describe the organisation standards, process standards and procedures followed. • Describe the provision of wages and accident compensation as per organisation policy. • State the code of business conduct. • Describe the dress code to be followed. • State the types of raw materials, packaging materials used and finished products processed in the organization | <ul style="list-style-type: none"> • Demonstrate how to conduct yourself at the workplace. • Demonstrate the procedure to be followed to implement personal hygiene and sanitation guidelines at the workplace. |
| Classroom Aids: | |
| Laptop, white board, marker, chart papers, projector, trainer's guide and student handbook, | |
| Tools, Equipment and Other Requirements | |
| protective gloves, head caps, aprons, safety goggles, safety boots, mouth masks, sanitizer, safety manual | |

Module 5: Production of Cottage Cheese

Mapped to FIC/N2018 v1.0

Terminal Outcomes:

- Describe the procedure for production of various foods.

| Duration: 20:00 | Duration: 40:00 |
|---|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> Plan production sequence List the different machineries involved in manufacturing of cottage cheese State the working of machineries involved in the production | <ul style="list-style-type: none"> Demonstrate the allotting of responsibilities Demonstrate assembling of all components of machines Demonstrate the entire production of cheese Perform calculation for raw material requirement Perform a check on the availability of raw material, ingredients and packaging materials Perform the grouping of ingredients for same type of products Analyse the quality of finished product |
| Classroom Aids: | |
| Laptop, white board, marker, chart papers, projector, trainer's guide and student handbook. | |
| Tools, Equipment and Other Requirements | |
| Homogenizer, Separator, Pasteurizer, Churner, Paneer Hooves, Paneer cutter Packaging Machines, Protective Gloves, Head Caps, Lab Coat, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual | |

Module 6: Complete Documentation and Record Keeping Related to Production of Cottage Cheese

Mapped to FIC/N2019 v1.0

Terminal Outcomes:

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

| | |
|---|---|
| Duration: 10:00 | Duration: 07:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • State the need for documenting and maintaining records of raw materials, processes and finished products. • State the method of documenting and recording the details of raw material to final finished product. | <ul style="list-style-type: none"> • Demonstrate the process of documenting records of production plan, process parameters, and finished products. |
| Classroom Aids: | |
| Laptop, white/black board, marker, chart papers, projector, Trainer's guide, Student manual. | |
| Tools, Equipment and Other Requirements | |
| Food Safety Manual, Log Books. | |

Module 7: IT Orientation

Mapped to FIC/N2019 v1.0

Terminal Outcomes:

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

| | |
|---|--|
| Duration: 04:00 | Duration: 20:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • State the basic functionalities of the computer to perform day to day activities. • List the various parts of a computer. • Describe the functions of different computer devices. • List the various applications used in recording information. | <ul style="list-style-type: none"> • Identify parts of computer. • Demonstrate the standard techniques used to operate a computer. • Show how to use an ERP software for recording information. • Demonstrate the effective use of applications such as word processor and spreadsheets. • Demonstrate how to use the computer to document day-to-day activities. |
| Classroom Aids: | |
| Computer/Laptop. | |
| Tools, Equipment and Other Requirements | |
| NIL | |

Module 8: Food and Safety, Hygiene and Sanitation

Mapped to FIC/N9001 v1.0

Terminal Outcomes:

- Discuss the importance of health and safety at the workplace.
- Demonstrate the task to be performed for ensuring health and safety at the workplace.

| | |
|--|--|
| Duration: 20:00 | Duration: 35:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • State the importance of safety, hygiene and sanitation in the food industry. • Discuss about the industry standards to maintain a safe and hygiene workplace. | <ul style="list-style-type: none"> • Demonstrate the safety practices to be followed in the work area. • Demonstrate the personal hygiene to be followed in the work area. • Apply HACCP principles to eliminate food safety hazards in the process and products. |
| Classroom Aids: | |
| NIL | |
| Tools, Equipment and Other Requirements | |
| Protective gloves, head caps, aprons, safety goggles, safety boots, mouth covers, sanitizer, safety manual, logbooks etc. | |

Module9 : Employability and Entrepreneurship skills

Bridge Module

Terminal Outcomes:

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

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

| | |
|---|--|
| <p>opportunities, generate employment and increase clientele.</p> <ul style="list-style-type: none"> • Understand the make in India campaign • Discuss the importance of Swachh Bharat Abhiyan • Understand the importance of entrepreneurship • Describe the traits of successful entrepreneur • List the types of enterprises • Understand the importance of effective speaking and listening • Discuss the importance of problem solving • Discuss how to deal with failures • Describe the core keys of marketing • Discuss ways to manage risks at workplace | |
| Classroom Aids: | |
| White board/Chart papers, marker. | |
| Tools, Equipment and Other Requirements | |
| NIL | |

Annexure

Trainer Requirements

| Trainer Prerequisites | | | | | | |
|--|--|------------------------------|---------------------------|---------------------|---|---------|
| Minimum Educational Qualification <i><Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.></i> | Specialization <i><Specify the areas of specialization that are desirable.></i> | Relevant Industry Experience | | Training Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| M.Sc / M.Tech / M.E | Dairy Technology or Food Engineering | 2 | Dairy Products Processing | 1 | Training of Cottage Cheese Maker - Food Processing Industry | |
| B.Sc or Graduate | Dairy Technology or Food Engineering | 3 | Dairy Products Processing | 1 | Training of Cottage Cheese Maker - Food Processing Industry | |
| B.Tech / B.E. | Dairy Technology or Food Engineering | 3 | Dairy Products Processing | 1 | Training of Cottage Cheese Maker - Food Processing Industry | |
| Diploma | Dairy Technology or Food Engineering | 4 | Dairy Products Processing | 1 | Training of Cottage Cheese Maker - Food Processing Industry | |

| Trainer Certification | |
|---|---|
| Domain Certification | Platform Certification |
| Certified for Job Role: "Cottage Cheese Maker" mapped to QP: "FIC/Q2005, v1.0". Minimum accepted score is 80% | Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". Minimum accepted score is 80 % as per FICSI guidelines. |

Assessor Requirements

| Assessor Prerequisites | | | | | | |
|--|--|------------------------------|----------------|--------------------------------|--|---------|
| Minimum Educational Qualification <i><Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.></i> | Specialization <i><Specify the areas of specialization that are desirable.></i> | Relevant Industry Experience | | Training/Assessment Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| B. Sc/B.Voc | Food Technology/Home Science/Dairy Science | 6 | Food Industry | 3 | Assessment of Supervisor-Dairy Products Processing | |

| Assessor Certification | |
|---|---|
| Domain Certification | Platform Certification |
| Certified for Job Role: "Cottage Cheese Maker" mapped to QP: "FIC/Q2005, v1.0". Minimum accepted score is 80% | Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "SSC/Q1402". Minimum accepted SCORE IS 80 % as per FICSI guidelines. |

Assessment Strategy

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

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

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

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

- A. Mid- term assessment
- B. Term / Final Assessment

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

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

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

- i. Written Test: This will comprise of (i) True / False Statements (ii) Multiple Choice Questions (iii) Matching Type Questions. Online system for this will be preferred.
- ii. Practical Test: This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.

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

Glossary

| Term | Description |
|------------------------------|---|
| Declarative Knowledge | Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem. |
| Key Learning Outcome | Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application). |
| OJT (M) | On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site |
| OJT (R) | On-the-job training (Recommended); trainees are recommended the specified hours of training on site |
| Procedural Knowledge | Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills. |
| Training Outcome | Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training . |
| Terminal Outcome | Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module . A set of terminal outcomes help to achieve the training outcome. |

Acronyms and Abbreviations

| Term | Description |
|--------------|---|
| QP | Qualification Pack |
| NSQF | National Skills Qualification Framework |
| NSQC | National Skills Qualification Committee |
| NOS | National Occupational Standards |
| HACCP | Hazard Analysis and Critical Control Points |
| GMP | Good Manufacturing Practices |
| GHP | Good Hygiene Practices |