Model Curriculum

QP Name: Plant Biscuit Production Specialist

QP Code: FIC/Q5003

QP Version: 1.0

NSQF Level: 4

Model Curriculum Version: 1.0

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

Table of Contents

Training Parameters

Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2004/NIL
Minimum Educational Qualification and Experience	1. Class 12th passed in any stream 2. Class 10th passed and 2 years course in relevant stream 3. Class 10th passed and 2 years of relevant experience 4. Class 10th passed and 2 years of ITI
Pre-Requisite License or Training	Not Applicable
Minimum Job Entry Age	18 years
Last Reviewed On	30/07/2021
Next Review Date	29/07/2024
NSQC Approval Date	28/05/2015
QP Version	1.0
Model Curriculum Creation Date	22/05/2015
Model Curriculum Valid Up to Date	29/07/2024
Model Curriculum Version	1.0
Minimum Duration of the Course	340 Hours
Maximum Duration of the Course	340 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:

- Preparing biscuits conforming to all quality standards as per standard operating procedures
- Operate oven, plant and machineries/ equipment in synchronization with proof box
- Follow and maintain food safety and hygiene in the work environment

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	**06:00 Hours**	**10:00 Hours**	**00:00 Hours**	**00:00 Hours**	**16:00 Hours**
Module 1: Introduction to Training Program and Overview of Food Processing Industry	02:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	02:00 Hours
Module 2: Professional and core skills	04:00 Hours	10:00 Hours	00:00 Hours	00:00 Hours	14:00 Hours
FIC/N5009 Prepare and maintain work area and process machineries for producing biscuits in industrial units NOS Version No.: 1.0 NSQF Level: 4	**10:00 Hours**	**20:00 Hours**	**00:00 Hours**	**00:00 Hours**	**30:00 Hours**
Module 3: Prepare to work area to produce biscuits in industrial units	10:00 Hours	20:00 Hours	00:00 Hours	00:00 Hours	30:00 Hours

FIC/N5010 **Prepare for production of biscuits in industrial units** **NOS Version No.: 1.0** **NSQF Level: 4**	**10:00 Hours**	**35:00 Hours**	**00:00 Hours**	**00:00 Hours**	**45:00 Hours**
Module 4: Prepare for production of biscuits in industrial units	10:00 Hours	35:00 Hours	00:00 Hours	00:00 Hours	45:00 Hours
FIC/N5011 **Produce biscuits in industrial units** **NOS Version No.: 1.0** **NSQF Level: 4**	**30:00 Hours**	**95:00 Hours**	**00:00 Hours**	**00:00 Hours**	**125:00 Hours**
Module 5: Carry out production of biscuits in industrial units	20:00 Hours	85:00 Hours	00:00 Hours	00:00 Hours	105:00 Hours
Module 6: organizational standards and norms	10:00 Hours	10:00 Hours	00:00 Hours	00:00 Hours	20:00 Hours
FIC/N5012 **Complete documentation and record keeping** **NOS Version No.: 1.0** **NSQF Level: 4**	**19:00 Hours**	**20:00 Hours**	**00:00 Hours**	**00:00 Hours**	**39:00 Hours**
Module 7: Document and record information	13:00 Hours	05:00 Hours	00:00 Hours	00:00 Hours	18:00 Hours
Module 8: IT Skills	06:00 Hours	15:00 Hours	00:00 Hours	00:00 Hours	21:00 Hours
FIC/N9001 **Food safety, hygiene and sanitation for processing food products** **NOS Version No.: 1.0** **NSQF Level: 4**	**15:00 Hours**	**30:00 Hours**	**00:00 Hours**	**00:00 Hours**	**45:00 Hours**
Module 9: Ensuring food safety, personal hygiene and workplace sanitation	15:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	45:00 Hours
Employability and Entrepreneurship skills	**28:00 Hours**	**12:00 Hours**	**00:00 Hours**	**00:00 Hours**	**40:00 Hours**
Module 10: Employability and Entrepreneurship skills	28:00 Hours	12:00 Hours	00:00 Hours	00:00 Hours	40:00 Hours
Total Duration	**118:00 Hours**	**222:00 Hours**	**00:00 Hours**	**00:00 Hours**	**340:00 Hours**

Module Details

Module 1: Introduction to the training program
Bridge Module

Terminal Outcomes:

- Discuss the opportunities available for Purchase assistants in food processing industry
- List the GMP and HACCP practices and FSSAI guidelines applicable in dairy processing

Duration: *02:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Introduce each other and build rapport with fellow participants and the trainer. - Discuss the future trends and career growth opportunities available to purchase assistant in the food processing industry. - Summarise the key roles and responsibilities of a 'plant buiscuit production specialist'. - List the various terminologies used in the food processing industry. - Discuss the role of organisational policies and procedures in the job. - Explain food processing. - List the various sub-sectors of food processing industry.	
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.	
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**
- 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.	- 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:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
NIL	

Module 3: Prepare and maintain work area and process machineries for producing biscuits in industrial units

Mapped to FIC/N5009, v 1.0

Terminal Outcomes:

- Apply the principles of food safety and hygiene in the work environment

Duration: _10:00_	**Duration**: _20:00_
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List the materials and equipment used in cleaning and maintenance of the work area and machineries. - Discuss the appropriate method for cleaning and maintaining work area	- Identify the different equipment used in the baking industry. - Demonstrate the cleaning processes used to clean the work area - Demonstrate the use of different equipment used in baking industry. - Check if the work area is safe and hygienic for food processing.
Classroom Aids	
Board/Chart paper/ Laptop and Projector, Trainer Handbook, Participant handbook, etc	
Tools, Equipment and Other Requirements	
White/Black board/ Chart paper, Markers/ computer and projector, Trainer's guide, student handbook, approved sanitizers for cleaning of the work area and machineries, approved lubricators, dustbins, necessary tools to attend minor repair work in process machinery, Ovens, Baking sheet & Racks, Fryer, Baking Pan, Commercial Mixers, Wire whiskers, Refrigerator, Masks – Head cover, mouth cover	

Module 4: Prepare for Production of Biscuits in Industrial units

Mapped to FIC/N5010, v1.0

Terminal Outcomes:

- List the tasks to be performed to prepare for baking in industries
- Demonstrate the techniques to be followed to inspect and prepare the raw materials as per desirable standards

Duration: *10:00*	**Duration**: *35:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List the raw materials, packaging materials, manpower, equipment and machineries for the scheduled production. - List the raw materials required for production as per production schedule and formation. - Explain the methods for storing raw materials for later use.	- Apply basic mathematics for various calculations in day-to-day processes. - Plan the production schedule as per organizational standards and instructions. - Check the raw material quality and grade. - Prepare the raw material for production. - Calculate batch size and prioritize urgent orders based on the production schedule and machine capacity. - Inspect the conformance of raw material quality to company standards. - Organize quality raw material as per production process and company standards. - Plan the production sequence to maximize capacity, utilization of resources, manpower and machinery.
Classroom Aids:	
Laptop/Computer	
Tools, Equipment and Other Requirements	
NIL	

Module 5: Carry out production of biscuits in industrial units
Mapped to FIC/N5011, v1.0

Terminal Outcomes:

- Discuss the process and steps involved in baking biscuits in industrial units
- Demonstrate the standard practice followed to bake biscuits

Duration: *20:00*	Duration: *85:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List the different machineries involved in manufacturing of biscuits. - Explain the working of machineries involved in the production. - List the various stages involved in manufacturing of biscuits.	- Perform a check if all the machineries are clean and in good working conditions. - Collect the various raw materials like fat, salt, yeast and flour. - Demonstrate assembling of all components of machines. - Demonstrate the process of mixing ingredients for baking - Execute the process of biscuit baking - Carry out the process of preparing center-filled/sandwich biscuits - Perform a pre check on all machineries. - Set the control parameters during manufacturing of biscuits. - Demonstrate the monitoring of machineries involved during manufacturing of biscuits. - Carry out packing of finished product. - Analyse the quality of finished product. - Demonstrate cleaning the machineries used with recommended sanitizers following CIP (clean-in place) procedure. - Demonstrate cleaning the equipment

	and tools used using recommended cleaning agents and sanitizers.

Classroom Aids:

Laptop/Computer

Tools, Equipment and Other Requirements

White/Black board/ Chart paper, Markers/ computer and projector, Trainer's guide, student handbook, sample of fuels used in baking industry, raw material, Commercial Mixers, Wire whiskers, Utensils, Mixing bowl, Work table, Sinks, Measuring Cup & spoon, Lab equipment for testing, Aprons, Cleaning tools, Weighing Scale, Masks – Head cover, mouth cover

Module 6: Document and record information

Mapped to FIC/N5012, v1.0

Terminal Outcomes:

- Discuss the importance of recording information in food processing
- Demonstrate the standard practice followed to record production information

Duration: *13:00*	Duration: *05:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the need for documenting and maintaining records of baking ingredient, process, and finished products.	• Demonstrate the method of documenting and recording the details of baking ingredients to final finished product
Classroom Aids:	
Laptop/Computer	
Tools, Equipment and Other Requirements	
NIL	

Module 7: Food Safety, Hygiene and Sanitation

Mapped to FIC/N9001, v1.0

Terminal Outcomes:

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

Duration: *15:00*	Duration: *30:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of safety, hygiene and sanitation in the baking industry. • Discuss the relevant HACCP principles to be followed in the baking industry.	• Demonstrate the steps to be performed to maintain a safe and hygiene workplace. • Demonstrate the steps to be performed to implement HACCP practices for ensuring food safety. • Roleplay a situation depicting the safety practices to be followed at the workplace. •
Classroom Aids:	
Laptop/Computer	
Tools, Equipment and Other Requirements	
NIL	

Module 8: IT Skills
Bridge module

Terminal Outcomes:

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

Duration: *06:00*	Duration: *15:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List the various parts of a computer. - Describe the functions of different computer devices. - List the various applications used in recording information.	- 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.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Protective gloves, head caps, aprons, safety goggles, safety boots, mouth covers, sanitizer, food safety manual ,logbooks etc.	

Module 9: Food Safety, Hygiene and Sanitation for Processing Food Products
Mapped to FIC/N9001 v1.0

Terminal Outcomes:

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

Duration: *15:00*	Duration: *30:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss the importance of safety, hygiene and sanitation in the baking industry. - Discuss the relevant HACCP principles to be followed in the baking industry.	- Demonstrate the steps to be performed to maintain a safe and hygiene workplace. - Demonstrate the steps to be performed to implement HACCP practices for ensuring food safety. - Roleplay a situation depicting the safety practices to be followed at the workplace.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Protective gloves, head caps, aprons, safety goggles, safety boots, mouth covers, sanitizer, food safety manual ,logbooks etc.	

Module 10 : Employability and Entrepreneurship skills

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**
- 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.	- 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.

• Explain how to conduct entrepreneurial programs to identify business opportunities, generate employment and increase clientele. • 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:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Nil

Annexure

Trainer Requirements

<table>
<tr><td colspan="7" align="center">Trainer Prerequisites</td></tr>
<tr>
<td rowspan="2">Minimum Educational Qualification
<i><Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.></i></td>
<td rowspan="2">Specialization
<i><Specify the areas of specialization that are desirable.></i></td>
<td colspan="2">Relevant Industry Experience</td>
<td colspan="2">Training Experience</td>
<td rowspan="2">Remarks</td>
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<tr>
<td><i>Years</i></td>
<td><i>Specialization</i></td>
<td><i>Years</i></td>
<td><i>Specialization</i></td>
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<tr>
<td>Certificate</td>
<td>Baking from 3 star plus hotel</td>
<td>2</td>
<td>Food Technology / Food Engineering</td>
<td>1</td>
<td>Training of Plant biscuit production specialist</td>
<td></td>
</tr>
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<td>M.Sc. Food Technology /</td>
<td>Food Engineering</td>
<td>2</td>
<td>Food Technology / Food Engineering</td>
<td>1</td>
<td>Training of Plant biscuit production specialist</td>
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<tr>
<td>M.E.</td>
<td>Food Technology / Food Engineering</td>
<td>2</td>
<td>Food Technology / Food Engineering</td>
<td>1</td>
<td>Training of Plant biscuit production specialist</td>
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<tr>
<td>M.Sc / M.Tech / M.E.</td>
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<td>Training of Plant biscuit production specialist</td>
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<tr>
<td>B.Sc.</td>
<td>Food science/quality</td>
<td>4</td>
<td>Food Technology / Food Engineering</td>
<td>1</td>
<td>Training of Plant biscuit production specialist</td>
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<td>B.Tech.</td>
<td>Food Technology / Food Engineering</td>
<td>3</td>
<td>Food Technology</td>
<td>1</td>
<td>Training of Plant</td>
<td></td>
</tr>
</table>

B.Sc.	Food Technology / Food Engineering	3	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
B.E. Food	Technology / Food Engineering	3	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
B.Sc or graduate / B.Tech / B.E.	Food Technology or Food Engineering	3	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
B.Sc.	Home science	4	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
Diploma Certificate course in Bakery	in food or catering / Certificate course in Bakery	4	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Plant biscuit production specialist" mapped to QP: "FIC/Q5003, v1.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601". Minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites					
Minimum Educational Qualification *<Select the minimum educational requirements, such as 12th Pass, Graduate or NSQF certified.>*	**Specialization** *<Specify the areas of specialization that are desirable.>*	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
B. Sc/Diploma/B.Voc	Hotel management/Food Technology/Home Science	5	Food Technology/Home Science	3	Assessment of Plant biscuit production specialist	
B.Tech/B.E./B.Voc	Food Technology / Food Engineering	3	Food Technology / Food Engineering	2	Assessment of Plant biscuit production specialist	
M.Sc./M.Voc/M.E./M.Tech	Food Technology or Food Engineering	2	Food Technology / Food Engineering	1	Assessment of Plant biscuit production specialist	
MBA	Agri Business Management/FTM	2	Agri Business Management	1	Assessment of Plant biscuit production specialist	

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Plant biscuit production specialist" mapped to QP: "FIC/Q5003, v1.0". Minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701". Minimum accepted score as per MEPSC guidelines is 80%.

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