Model Curriculum

QP Name: Plant Biscuit Production Specialist

QP Code: FIC/Q5003

QP Version: 3.0

NSQF Level: 4

Model Curriculum Version: 3.0

Food Industry Capacity and Skill Initiative(FICSI)
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Plant Biscuit Production Specialist

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Training Parameters

Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing-Bread and Bakery
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7512.0300
Minimum Educational Qualification and Experience	1. 11th grade pass without experience OR 2. Completed 1st year of 3-year diploma (after 10th) and pursuing regular diploma OR 3. 10th grade pass plus 1-year NTC/ NAC OR 4. 10th Class Pass with 2 years of relevant experience OR 5. Previous relevant qualification of NSQF Level 3 with 2 years of relevant experience OR 6. Previous relevant qualification of NSQF Level 3.5 with 1 year of relevant experience
Pre-Requisite License or Training	Not Applicable
Minimum Job Entry Age	18 years
Last Reviewed On	29/07/2021
Next Review Date	28/07/2024
NSQC Approval Date	29/07/2021
QP Version	3.0
Model Curriculum Creation Date	22/05/2015

Model Curriculum Valid Upto Date	28/07/2024
Model Curriculum Version	3.0
Minimum Duration of the Course	330 Hours
Maximum Duration of the Course	330 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 biscuits conforming to all quality standards as per standard operating procedures
- Operate oven, plant, and machineries/equipment
- 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
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**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module1: Introduction to Training Program	02:00 Hours	00:00 Hours	00:00Hours	00:00Hours	02:00 Hours
Module2: Prepare work area and machineries for producing biscuits	08:00 Hours	20:00 Hours	00:00Hours	00:00 Hours	28:00 Hours

FIC/N5010 **Prepare for production of biscuits in industrial units** **NOS Version No.: 1.0** **NSQF Level:4**	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 3: Prepare for Production of biscuits in industrial units	10:00 Hours	20:00 Hours	00:00 Hours	00:00 Hours	30:00 Hours
FIC/N5011 **Produce biscuits in industrial units** **NOS Version No.: 1.0** **NSQF Level:4**	**50:00 Hours**	**100:00 Hours**	**00:00 Hours**	**00:00 Hours**	**150:00 Hours**
Module 4: Carryout Production of biscuits in industrial units	50:00 Hours	100:00 Hours	00:00Hours	00:00 Hours	150:00 Hours
FIC/N5012 **Complete documentation and record keeping related to production of biscuits in industrial units** **NOS VersionNo.:1.0** **NSQF Level: 4**	**10:00 Hours**	**20:00 Hours**	**00:00 Hours**	**00:00 Hours**	**30:00 Hours**
Module 5: Document and record information	10:00 Hours	20:00 Hours	00:00 Hours	00:00 Hours	30:00 Hours
FIC/N9001 **Food safety, hygiene and sanitation for processing food products** **NOS Version No.: 1.0** **NSQF Level:4**	**10:00 Hours**	**20:00 Hours**	**00:00 Hours**	**00:00 Hours**	**30:00 Hours**
Module 6: Food Safety, Hygiene and Sanitation for Processing Food Products	10:00 Hours	20:00 Hours	00:00 Hours	00:00 Hours	30:00 Hours
DGT/VSQ/N0102 **Employability Skills** **NOS Version No.: 1.0** **NSQF Level: 4**	**24:00 Hours**	**36:00 Hours**	**00:00Hours**	**00:00Hours**	**60:00 Hours**
Module7: Employability skills	24:00 Hours	36:00 Hours	00:00 Hours	00:00Hours	60:00 Hours
Total Duration	**114:00 Hours**	**216:00 Hours**	**00:00 Hours**	**00:00 Hours**	**330:00 Hours**

Module Details

Module1: Introduction to the training program

Mapped to FIC/N5009, v1.0

Terminal Outcomes:

- Discuss the roles and opportunities available for Plant Biscuit Production Specialist
- Explain food processing and its sub-sectors
- Discuss the current market and future trends of food processing sector

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. - Explain food processing. - List the various sub-sectors of food processing industry - Discuss the future trends and career growth opportunities available to plant biscuit production specialist in the food processing industry. - Summarize the key roles and responsibilities of a 'plant biscuit production specialist'. - Discuss the organizational standards and norms	
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Nil	

Module 2: Prepare work area and machineries for producing biscuits

Mapped to FIC/N5009, v1.0

Terminal Outcomes:
- Describe the major functions carried out related to sanitation and maintenance before starting production
- Describe pre-cleaning work area and machinery

Duration: 08:00	Duration: 20:00
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
• List the materials and equipment used in the preparation of biscuits • State the common detergents and sanitizers used in cleaning work area and machineries. • Describe the functions to be carried out before starting production. • Describe the methods of cleaning and sanitization. • State the different types of maintenance procedures. • Describe CIP/COP method of cleaning. • Describe SIP method of cleaning.	• 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,BakingPan,CommercialMixers,Wirewhiskers,Refrigerator,Masks– Head cover, mouth cover	

Module 3: 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: *20:00*
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 4: 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: 50:00	Duration: 100:00
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
- Describe the machines used for production of biscuits in industry in brief - Explain the various stages involved in manufacturing of different types of biscuits and cookies. - Describe the quality parameters to be checked for the final product produced - Describe how to identify defects in the final product - State storage and packaging of the final product - Describe post-production cleaning and maintenance of equipment used in the production process - State waste management options to dispose wastes produced during the processing	- 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, Worktable, Sinks, Measuring Cup &spoon, Lab equipment for testing, Aprons, Cleaning tools, Weighing Scale, Masks – Head cover, mouth cover

Module 5: 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: *10:00*	Duration: *20:00*
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
- Discuss the need for documenting and maintaining records of baking ingredient, process, and finished products. - State ERP and maintaining documentation via ERP	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 6: 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 application of HACCP and FSMS

Duration: 10:00	Duration: 20:00
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. - Describe various GMP as per FSSAI and GHP followed in the organization - Describe hazards and its types	- 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. - Role play a situation depicting the safety practices to be followed at the workplace.
Classroom Aids:	
Computer, Projection Equipment, Power Point 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 7: Employability skills
Mapped to DGT/VSQ/N0102, v 1.0

Terminal Outcomes:

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

Duration: *24:00*	Duration: *36:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss the importance of Employability Skills in meeting the job requirements. - Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. - Discuss 21st century skills. - Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. - Discuss the significance of reporting sexual harassment issues in time - Discuss the significance of using financial products and services safely and securely. - Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws - Explain the importance of managing expenses, income, and savings. - Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely - Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges - Differentiate between types of customers	- Show how to practice different environmentally sustainable practices - Use appropriate basic English sentences/phrases while speaking - Demonstrate how to communicate in a well - mannered way with others - Demonstrate working with others in a team - Show how to conduct oneself appropriately with all genders and PwD - Show how to operate digital devices and use the associated applications and features, safely and securely - Create a biodata - Use various sources to search and apply for jobs

• Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities	

Classroom Aids:

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

Tools, Equipment and Other Requirements

Computer/laptop.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Diploma	Food Tech or Food Engineering	2	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
B.Sc./B. Tech/BE	Food Technology or Food Engineering	2	Food Technology / Food Engineering	1	Training of Plant biscuit production specialist	
M.Sc./M. Tech/ME	Food Technology or Food Engineering	2	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, v3.0". 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	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Food Tech or Food Engineering	5	Food Technology/Home Science	3	Assessment of Plant biscuit production specialist	
B.Sc./B. Tech/BE	Food Technology or Food Engineering	3	Food Technology/ Food Engineering	2	Assessment of Plant biscuit production specialist	
M.Sc./M. Tech/ME	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, v3.0". Minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701". Minimum acceptedscoreasperMEPSCguidelinesis80%.

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.

AssessmentAgencywouldconductassessmentonlyatthetrainingcentresofTrainingPartneror 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. ThereineachPerformanceCriteriaintheNOSwillbeassignedmarksfortheoryand/orpractical 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 paper sets/question banks 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.

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