



Facilitator Guide



Sector
Food Processing

Sub-Sector
Bread and Bakery

Occupation
Processing-Bread and Bakery

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NSQF Level: 4

Plant Biscuit Production Specialist



Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”

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About this Book

This book is designed to provide skill training and/ or upgrade the knowledge and basic skills to take up the job of 'Plant Biscuit Production Specialist' in 'Food Processing' sector. All the activities carried out by a specialist are covered in this course. Upon successful completion of this course, the candidate will be eligible to work as a Plant Biscuit Production Specialist.

This Facilitator Guide is designed to enable training for the specific Qualification Pack (QP). Each National Occupational Standards (NOS) is covered across Unit/s.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS.

1. FIC/N5009: Prepare and maintain work area and process machineries for producing biscuits in industrial units
2. FIC/N5010: Prepare for production of biscuits in industrial units
3. FIC/N5011: Produce biscuits in industrial units
4. FIC/N5012: Complete documentation and record keeping related to production of biscuits in industrial units
5. FIC/N9001: Food safety, hygiene and sanitation for processing food products
6. DGT/VSQ/N0102: Employability Skills

Symbols Used



Key Learning Outcomes



Objectives



Ask



Explain



Practical



Notes



Resources



Activity



Summary



Role Play



Team Activity



Say



Example



Methodology



Do

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Guidelines for the Trainer

As a Trainer, follow the below guidelines:

- Understand your job thoroughly
 - Reach the venue 15 minutes before the training session.
 - Please ensure you have all the necessary training tools and materials for the training session (learning cards, sketch pens, raw materials, etc.).
 - Check the condition of your training equipment, such as a laptop, projector and, camera, relevant tools (depending on the training site).

Before starting any training program, the trainer should concentrate on the below crucial pointers,

- Use best practices and methods of training.
- Create awareness of the quality of work done.
- Explain how to minimise waste.
- Ensure that the participants practice safety measures and use proper PPE.
- Make sure the participant adopts the basic ergonomic principles.
- Create awareness of housekeeping at regular intervals.
- Explain the influence of productivity as a whole.
- Make the class as interactive as possible by adopting activity-based or scenario-based training methodology.

Understand your participants

You will conduct the training program for a certain period as a trainer. To improve the program's effectiveness, you should understand the mindset of the participants and create a good rapport with them. Maintaining a good working relationship with the participants is always essential to achieve better results from the training program.

Adopt the basic etiquette during training

- Greet the participant and introduce yourself.
- Use a gentle pace of voice/tone while speaking with the participant.
- Explain the need and use of the training program.
- Ask the participants to introduce themselves to the group and help them with communication difficulties.
- Clarify their doubts patiently, and do not get irritated if a participant asks the same question repeatedly.
- Understand the level of participants and train them accordingly.
- Watch the participants at work, and note some pointers of performance.
- Give some hints and easy thumb rules which can be easily understood and remembered.
- Always use the three golden words, "Please", "Thank You", and "Sorry".
- Be positive and professional while giving participants feedback; do not criticize or make fun of their performance.
- Identify the faulty practices of the participants and rectify them as soon as possible.
- Always be a good mentor and observer.
- Do not forget to introduce the topic to be covered in the next class.
- Do not forget to recapitulate the topic covered in the last class.





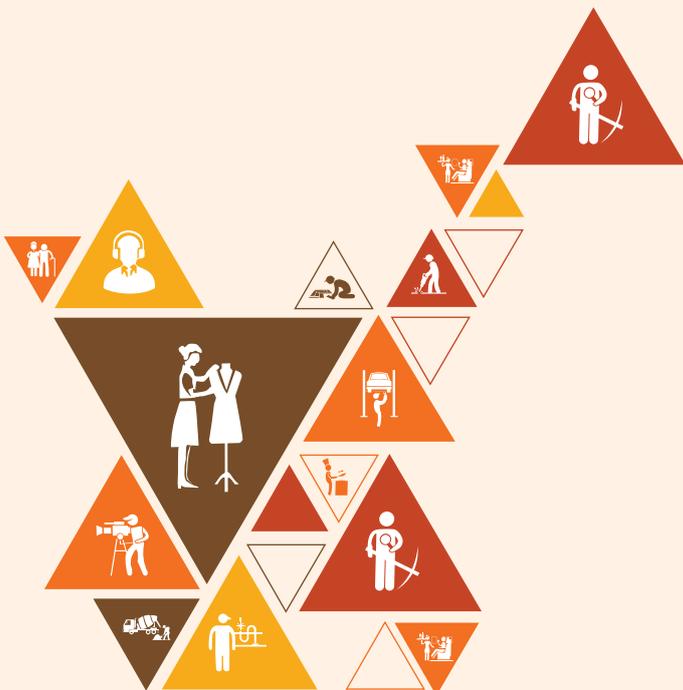
1. Introduction to Training Programme

Unit 1.1 - Introduction to the Training Programme

Unit 1.2 - Overview of the Food Processing Industry

Unit 1.3 - Introduction to the Baking Industry and Bakery Products

Unit 1.4 - Roles and Responsibilities of Plant Biscuit Specialist



FIC/N5009

Key Learning Outcomes

At the end of this module, you will be able to:

- Explain the purpose of training.
- Define food processing
- List the various sector of food processing industry
- Describe the various stages of food processing sector for converting raw materials to food products
- List the various products of bread and bakery sub-sector
- Explain the baking process
- State the various roles and responsibilities of Plant biscuit production specialist

Icebreaker

Unit Objectives

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

- Be familiar with the food processing sub sector and know their position of responsibilities
- Build rapport with fellow participants and the trainer.

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Conduct the group activity.

Say

- Now that we are all familiar with each other's names and actions, each one of you will introduce yourself to us.
- Example. I am _____, coming here from _____, like to _____, love _____ and _____.
- Now that we know something about each other. We will try to take only first names while speaking to each other for the rest of our sessions.
- Let us see how interactive we can make this discussion by working together.
- Now trainer will explain the objective of this module.

Ask

- Welcome the participants and ask them if they know about each other.
- If not, then let them introduce themselves to each other.
- Ask the participant if they have undergone any training.
- Ask the participant to outline the benefits one would derive from this training.

Activity

Brief

- Each participant is given a blank card (visiting card size). Every participant will write their first name on it, big and bold.
- On the back, they will put down two words or phrases that can be used as conversation starters. For example: Classical singer, Patna resident.

Activity Description

- Divide the class into groups of 4-5 participants. Distribute the blank cards and pens to every participant in the group.
- Give the groups enough time (about 5 minutes) to write their name and conversation starters.
- Now ask the groups to meet each other using the name card and converse with them about the two things on the card.
- Give the groups enough time (10 minutes) to meet every group member and know their names.
- Now ask the groups to start mixing around with other groups. Every few minutes, tell the groups to change seats to encourage everyone to meet as many people as possible.

Debrief

- Reassemble the group and have all the participants introduce themselves.
- As each individual is introduced, other participants are encouraged to add the information or details shared earlier in the mixing round.

Notes for Facilitation

Discuss

- Was this activity helpful in getting to know some of your fellow participants?
- What were some of the most interesting things discovered during the conversation?

Unit 1.1 - Introduction to Training Program

Unit Objectives

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

- Explain the purpose of the training
- Discuss the National Vocational Standards and Qualification Pack

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Provide an overview of the training program . Start by explaining what the training program is about, what the objectives of the program are, and how it will benefit the trainees.
- Identify the target audience. Discuss who the program is designed for and who will be participating in the training. This will help the trainees understand why they are attending the program and what they can expect to gain from it.
- Explain the structure of the training . Discuss the length of the training program, the format , the training materials that will be used, and how the program will be delivered.

Say

- Food processing is the transformation of raw components into consumable goods. This business includes a wide range of activities, from simple processes like freezing and canning to more complex ones like baking and fermentation. The food business is critical to assuring food safety, preservation, and availability all year.

Ask

- What is the goal of a training program, and how does it help personnel as well as the organization as a whole?
- How do you determine training requirements?
- What are some typical organizational training approaches, and how do you know which ones are most suited to your employees' needs?

- How can the effectiveness of a training program be measured, and what elements should be considered when assessing its success?
- How do you ensure that your training program is in line with the broader goals and objectives of the organization?

Notes for Facilitation



- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain



- Explain the Purpose of training
- Explain the QP and NOS

Elaborate



- Elucidate the Skill cards with the help of (figure 1.1.1), given in the participant handbook
- Show the NOS code and Major Function/Task.

Activity



Brief

- Each group must come up with a list of products developed by every sub-sector in the food processing industry.

Activity Description

- Divide the class into groups of 4-5 participants.
- Assign a sub-sector to each group.
- Give the groups enough time to discuss the processed foods developed within the sub-sector allotted to them. Also, ask them to list the names of popular brands for that produce.
- Now ask the groups to select one person from themselves who would write down the list of products on the board.
- When that participant comes to the board, other group members tell him the list of products they have thought of.

Debrief

- Summarize the list of processed foods and the sub-sectors.
- Add more products to the list with local examples.

Unit 1.2 - Overview of the Food Processing Industry

Unit Objectives

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

- List the various sectors of the food processing industry
- Define food processing
- Describe the various stages of food processing for converting raw materials to food products

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Show videos or images of food processing plants and discuss the different processes involved in food processing such as sorting, cleaning, packaging, and preservation.
- Conduct a group discussion on the importance of food processing industry and its impact on the economy, employment, and food security.
- Ask students to research and present on different types of food processing methods such as canning, freezing, dehydration, and irradiation.
- Assign a project where students research a specific food product and present on the different stages of its processing, including raw materials, processing methods, and packaging.
- Conduct a field trip to a local food processing plant and give students a chance to observe the various stages of food processing in action.

Say

- The processes and methods used to transform raw food components into edible products are referred to as food processing. Cleaning, chopping, cooking, and packaging are examples of such procedures. Food processing extends the shelf life of food, improves its taste and appearance, and makes it more convenient to consume. Some processed meals, on the other hand, can be heavy in salt, sugar, and fat, which can be damaging to health if consumed in excess.

Ask

- What is food processing and why is it important?
- What are some examples of processed foods and how are they made?
- What are the different stages of food processing?
- How does food processing impact the safety and quality of food products?
- What are some challenges faced by the food processing industry, such as foodborne illnesses, food fraud, and sustainability concerns?
- How can the food processing industry address these challenges and ensure the safety and quality of their products?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- What is the overview of the Food Processing Industry
- Elaborate on the food production cycle.

Elaborate

- Clarify the food processing with the help of (figure 1.2.1), given in the participant handbook
- Explain the production of the cycle with the help of (figure 1.2.2), given in the participant handbook

Activity

Brief

- Conduct a mock product development exercise where

Activity Description

- Divide the class into groups of 4-5 participants.
- Assign a sub-sector to each group.
- Students come up with their own food product and outline the processes needed to produce and package it.
- Now ask the groups to select one person from themselves who would write down the list of products on the board.
- When that participant comes to the board, other group members tell him the list of products they have thought of.

Debrief

- Summarize the list of processed foods and the sub-sectors.
- Add more products to the list with local examples.

Unit 1.3 - Introduction to the Baking Industry and Baker Products

Unit Objectives

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

- List the various products of the bread and bakery sub-sector
- List the various types of industries within the bakery sub-sector
- Explain the baking process

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Conduct a baking demonstration, showing students how to prepare a basic bread dough. Discuss the ingredients, their functions, and the process involved in mixing, fermenting, and baking the dough.
- Provide students with an opportunity to practice baking basic bread and other simple baked goods like muffins, cookies, or cakes. Allow them to work in small groups and provide guidance and support as needed.
- Assign students to research various types of bakeries, such as retail bakeries, commercial bakeries, and artisan bakeries. Ask them to compare and contrast the products, services, and business models of these bakeries.

Say

- The bread and bakery industry includes enterprises that manufacture and sell baked foods such as bread, cakes, pastries, and biscuits.
- Bread is the most popular bakery product in the world, and the industry has a long history extending back thousands of years.
- Over time, the industry has evolved to accommodate new techniques, ingredients, and flavors. Today, the business is very competitive, with tiny local bakeries competing for market share alongside major global corporations.
- Changes in consumer preferences, increased raw material costs, and rising health concerns about the excessive sugar and fat content of some baked goods are significant issues for the sector.

Ask

- What are some common types of baked goods?
- How has the baking industry evolved over time?
- What are some key ingredients used in baking?
- What are some techniques used in baking?
- How do different baking methods affect the outcome of the final product?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Introduction to the Bread and Bakery Industry
- Various types of baked product

Elaborate

- Elucidate the overview of the entire process of baking with the help of (Fig. 1.3. 7. Overview of the baking process), given in the Participant Handbook.

Unit 1.4 - Roles and Responsibilities of Plant Biscuit Specialist

Unit Objectives

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

- Understand the roles and responsibilities of a Plant Biscuit Production Specialist

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Use visual aids such as diagrams and flowcharts to illustrate the production process of biscuits and where the plant biscuit specialist fits in.
- Provide case studies or real-life examples of plant biscuit specialists who have excelled in their roles and share their success stories.
- Engage the students in discussions and brainstorming sessions to identify the key skills and competencies required for a plant biscuit specialist.

Say

- A plant biscuit specialist is in charge of overseeing the biscuit production process in a manufacturing plant.
- Their responsibilities include overseeing the manufacturing line, ensuring that quality and safety standards are met, diagnosing any production concerns, and applying new procedures to boost efficiency and productivity.
- They also collaborate closely with other departments such as R&D, marketing, and logistics to ensure timely product delivery and client satisfaction.

Ask

- What is the primary responsibility of a plant biscuit specialist?
- How do plant biscuit specialists ensure quality control in the production process?
- What are some common challenges faced by plant biscuit specialists in their role?

- How does a plant biscuit specialist collaborate with other members of the production team?
- What technical skills are required for someone to be successful as a plant biscuit specialist?

Notes for Facilitation



- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain



- Explain brief job description
- Personal attributes of a Plant Biscuit Production Specialist
- Key Roles and Responsibilities

Activity



Brief

- Each group must come up with a list of Roles and Responsibilities of Plant Biscuit production specialist

Activity Description

- Divide the class into groups of 4-5 participants.
- Assign a sub-sector to each group.
- Give the groups enough time to discuss Roles and Responsibilities of Plant biscuit production specialist. Also, ask them to list the names of popular examples.
- Now ask the groups to select one person from themselves who would write down the list of Roles and Responsibilities of Plant Biscuit production specialist
- When that participant comes to the board, other group members tell him the list of products they have thought of.

Debrief

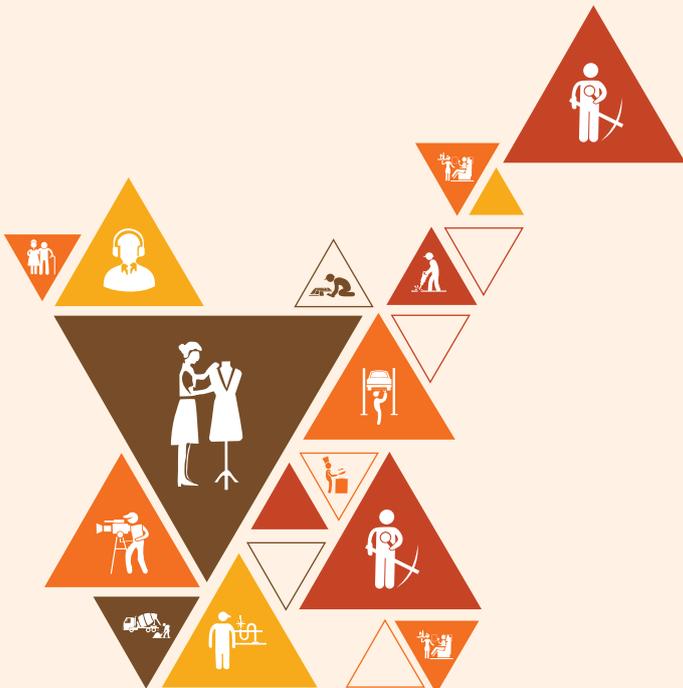
- Summarize the list of Roles and Responsibilities of Plant Biscuit production specialist
- Add more products to the list with local examples.



2. Preparing Work Area, Tools and Equipment

Unit 2.1 - Tools and Equipment in Baking Process

Unit 2.2 - Sanitisation of the Work Area



FIC/N5009

Key Learning Outcomes



At the end of this module, you will be able to:

- Identify various tools and equipment used in baking process
- Use tools and equipment to carry out baking process
- Dispose waste according to company SOP
- Check working of various tools and equipment
- Identify various chemicals and methods used for cleaning tools, equipment and surfaces
- Clean tools, equipment and work surfaces
- Carry out basic repairs

Unit 2.1 - Tools and Equipment in Baking Process

Unit Objectives

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

- Identify various tools and equipment used in baking process
- Use tools and equipment to carry out baking process
- Dispose waste according to company SOP
- Check working of various tools and equipment
- Identify various chemicals and methods used for cleaning tools, equipment and surfaces
- Clean tools, equipment and work surfaces
- Carry out basic repairs

Resources to be Used

- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide
- Participant's Handbook
- Markers/ computer and projector
- Approved sanitizers for cleaning of the work area and machineries
- Approved lubricators
- 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

Do

- Use images, diagrams, and videos to demonstrate the different types of tools and equipment used in the baking process.
- Give students hands-on experience with different tools and equipment. This will help them to better understand how to use each tool effectively.

- Initiate a class discussion about the importance of using the right tools and equipment in the baking process. Talk about how the wrong tool can affect the end result of the baked good.

Say

- A number of tools and equipment are required in baking process. A plant biscuit production specialist should be able to identify and appropriately use these tool/equipment.

Ask

- What are the basic tools and equipment needed for baking?
- How do different types of baking equipment, such as stand mixers or hand mixers, affect the baking process?
- What safety precautions should be taken when using baking equipment, such as ovens or knives?
- How do you properly clean and maintain baking equipment to ensure its longevity and effectiveness?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Tools and Equipment Used in Baking
- Baking Ovens
- Health and Safety Measures for Bakery Equipment
- Waste Disposal

Elaborate

- Elucidate the types of oven with the help of (Fig.2.1.15: Types of baking ovens), given in the Participant Handbook.
- Waste generated in a bakery, is understood with the help of Fig.2.1.22: Classification of bakeries), given in the Participant Handbook.

Activity

Brief

- Different tools and equipment's used in baking industry .

Activity Description

- Divide students into groups and give each group a different tool or piece of equipment.
- Ask them to research and present to the class on the proper use, care, and maintenance of that item.
- Give them enough time to come up with a list.
- Ask the groups to choose one representative to present the list to the board.

Debrief

- Request the class questions like, "What did we do in this activity" to summaries the experience.
What did this activity teach us?

Unit 2.2 - Sanitisation of the Work Area

Unit Objectives

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

- State the materials and equipment used in cleaning and maintenance of the work area and machineries
- List the various cleaning chemicals required

Resources to be Used

- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide
- Participant's Handbook
- Markers/ computer and projector
- 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

Do

- Demonstrate how to properly clean and sanitize different surfaces and equipment commonly used in baking, such as work tables, mixers, ovens, and baking sheets. Have the students practice cleaning and sanitizing the equipment themselves.
- Discuss the importance of using the correct cleaning and sanitizing chemicals, and how to properly dilute and apply them.
- Provide safety guidelines and personal protective equipment (PPE) requirements when handling chemicals.

Say 

- Cleaning processes are essential for maintaining hygiene and preventing the spread of disease. There are various types of cleaning processes, including mechanical, chemical, and thermal methods.
- Mechanical cleaning involves physically scrubbing or wiping surfaces to remove dirt and debris, while chemical cleaning involves using cleaning agents to dissolve or disperse contaminants.
- Thermal cleaning uses heat to remove dirt or sterilize surfaces. Effective cleaning processes must consider the type of surface being cleaned, the level of contamination, and the desired level of cleanliness.
- Proper cleaning procedures also require adequate training, equipment, and safety measures to ensure the health and safety of the cleaning staff and building occupants.

Ask 

- What is the importance of sanitizing the work area in the baking industry?
- What are the common types of sanitizers used in the baking industry?
- How do you properly clean and sanitize baking equipment and utensils?
- What are the steps involved in cleaning and sanitizing a work area?
- What are some common sanitation issues in the baking industry and how can they be prevented?

Notes for Facilitation 

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain 

- Cleaning and Sanitisation
- Storage of Sanitisers and Disinfectants

Elaborate 

- Elucidate the cleaning area with the help of(Fig. 2.2.1. Food contact and non-contact zones in a production area), given in the Participant Handbook.
- Illustrate types of cleaners and sanitising agents to clean the food contact and non-food contact surfaces with the help of(Table 2.2.1: Types of cleaning agents and it's use), given in the Participant Handbook.

Key Learning Outcomes



At the end of this module, you will be able to:

- Understand Food Microbiology
- Read and Understand Production Order
- Check availability of raw material
- Calculate weight of dough required
- Plan production sequence
- Ensure working of machines and equipment
- Calculate process time for production
- Assign work to workers
- Weigh material required and check quality of material
- Organise and start machines

Unit 3.1 - Basic Calculations

Unit Objectives

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

- Use basic mathematics for various calculations in day-to-day processes

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Conduct a baking ingredient measurement activity. Have students practice measuring different baking ingredients like flour, sugar, and butter using different measuring tools such as cups, spoons, and scales. Discuss the importance of precise measurements in biscuit production.
- Create a recipe conversion activity. Provide a recipe for a certain number of biscuits and ask students to convert it to different serving sizes or to make more or less biscuits. This will help them practice basic calculations like addition, subtraction, multiplication, and division.

Say

- Estimating raw materials and labour are critical parts of project planning and management. The process of identifying the types and quantities of materials needed for a project and calculating their costs is known as raw material estimation. This necessitates a thorough examination of the project's needs, specs, and timetable.
- Estimating manpower entails determining the amount of individuals needed for the project as well as their abilities, certifications, and experience. This includes analysing the scale, complexity, and timeframe of the project, as well as any specific positions or duties that must be filled .
- Estimating raw materials and labour accurately is critical for good project planning, budgeting, and resource allocation. Without accurate estimation, projects may face delays, cost overruns, or insufficient resources, resulting in unsatisfactory results.

Ask

- How can you adjust a biscuit recipe for factors such as humidity, altitude, or ingredient substitutions?
- What are some common measurement tools used in biscuit production, and how do you ensure they are accurate?
- How do you calculate the cost of ingredients for a biscuit recipe, and how does this impact pricing and profitability?
- What are some best practices for documenting and recording the calculations and measurements used in biscuit production?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Raw Material and Manpower Estimation
- Bakery Mathematics

Elaborate

- Elucidate the steps to estimate manpower for production with the help of (Fig. 3.1.2 Steps to Calculate Manpower Estimation for Production), given in the Participant Handbook.
- Explain fundamental units of measurements with the help of (Fig.3.2.3(a): Fundamental units of measurements, Fig.3.2.3(b): Fundamental units of measurements and Fig.3.2.3(c): Fundamental units of measurements)

Activity

Brief

- Create a production schedule activity

Activity Description

- Provide students with a biscuit production schedule.
- Ask them to calculate the amount of ingredients needed for each batch, the total baking time, and the quantity of biscuits produced per day.
- Then do the calculation yourself on board and explain the class

Debrief

- This will help them practice time management and planning skills.

Unit 3.2 - Selection of Raw Material and Handling

Unit Objectives

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

- Read and Understand Production Order
- Check availability of raw material
- Calculate weight of dough required
- Plan production sequence
- Ensure working of machines and equipment
- Calculate process time for production
- Assign work to workers
- Weigh material required and check quality of material
- Organise and start machines

Resources to be Used

- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide

Do

- Show examples of different types of raw materials used in biscuit production, such as flour, sugar, butter, and eggs.
- Discuss the importance of selecting high-quality raw materials and the potential impact of using low-quality materials on the final product.
- Demonstrate proper handling techniques for raw materials, such as storage and inventory management, to prevent contamination and ensure freshness.
- Provide guidelines for measuring and weighing raw materials accurately for consistent results.
- Discuss the impact of climate and environment on raw materials and the need for proper storage and handling in different conditions.

Say

- Raw materials are the fundamental components of manufacturing and industrial processes. Raw material selection and handling are key parts of assuring product quality, uniformity, and safety.

- The availability, quality, pricing, and environmental impact of raw materials all play a role in their selection. Manufacturers must carefully assess these variables and select raw materials that fulfil their individual needs and standards
- The handling of raw materials is also important in ensuring their quality and safety. To minimise contamination, deterioration, and other dangers, proper handling entails adhering to specified norms for storage, transit, and processing. This necessitates the implementation of suitable safety measures, personnel training on proper handling practices, and the regular monitoring and testing of raw materials to ensure they fulfil specifications..

Ask

- What are some factors to consider when selecting raw materials for biscuit production?
- How can improper handling of raw materials impact the quality of the final product?
- What steps can be taken to prevent contamination of raw materials in the production process?
- How can measuring and weighing raw materials accurately help ensure consistent results?
- Can you think of any examples of how climate and environment can impact the quality of raw materials used in biscuit production?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Understanding Order and Raw Material Availability
- Planning the Production Sequence
- Selecting Raw Material
- Ascertaining Quality of Raw Material
- Storage of Raw Material and Biscuits

Elaborate

- Elucidate the overview of the production planning process with the help of(Fig. 3.2.2: Planning the Production Sequence), given in the Participant Handbook.
- What are the raw material used for baking with help of (Fig.3.2.4: Raw material used in baking), given in the Participant Handbook.
- How to ascertain the Quantity of raw material is explained with help of (Fig.3.2.5: Ascertaining Quality of Raw Material), given in the Participant Handbook.
- Explain raw material storage and handling with help of (Fig.4.1.11: Raw material storage and handling system), given in the participant handbook.

Activity

Brief

- Each group must develop a list of how good quality of raw material is selected

Activity Description

- Group the students into a group of four or five.
- Role-play a situation depicting the Good Food selection practices to be plant biscuit specialist

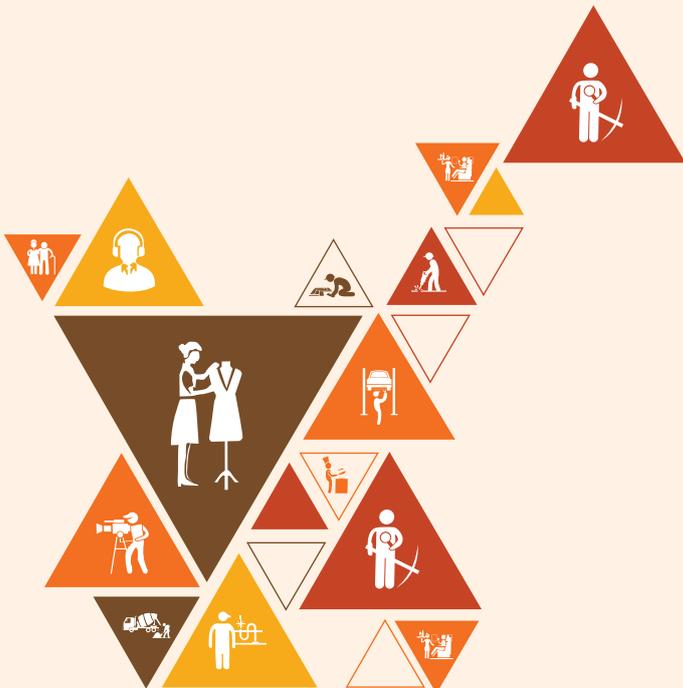
Debrief

- Request the class questions like, "What did we do in this activity" to summarise the experience.
What did this activity teach us



4. Producing Biscuits

Unit 4.1 - Producing Biscuits



FIC/N5011

Key Learning Outcomes

At the end of this module, you will be able to:

- Identify different types of dough
- Perform mixing operations for ingredients
- Laminating Dough
- Baking biscuits and preparing sandwich biscuits
- Cool and Pack biscuits
- Store raw material and finished products
- Perform Post Process clean-up and Maintenance

Unit 4.1 - Producing Biscuits

Unit Objectives



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

- Identify different types of dough
- Perform mixing operations for ingredients
- Laminating Dough
- Baking biscuits and preparing sandwich biscuits
- Cool and Pack biscuits
- Store raw material and finished products
- Perform Post Process clean-up and Maintenance

Resources to be Used



- Participant handbook
- Computer
- Projection Equipment
- PowerPoint Presentation and software
- Facilitator's Guide
- 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

Do



- Intentionally make mistakes in the biscuit production process and ask students to identify the problem and suggest a solution. This will help them develop problem-solving skills and understand the importance of quality control in biscuit production.

- Organize a field trip to a biscuit manufacturing plant or bakery to give students a first-hand experience of the biscuit production process. This will help them understand the scale and complexity of large-scale biscuit production.

Say

- Biscuits are made by combining flour, sugar, and other ingredients and then cutting and shaping the mixture into individual biscuits. After that, the biscuits are baked and cooled before being packaged for sale. To ensure consistent flavour and texture, quality control is essential.

Ask

- What are the key steps involved in the biscuit production process?
- What are some of the challenges that can arise during the biscuit production process?
- How can you ensure consistent quality of biscuits during production?
- What are the critical parameters to monitor during biscuit production?
- How do you ensure proper dough handling during the production process?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Types of Dough
- Dough Formation/Mixing
- Laminating
- Mixing
- Baking the biscuit
- Quality Check of Biscuits
- Packing of Biscuits
- Post Process Cleaning and Maintenance

Elaborate

- Elucidate the Lamination process with the help of (Fig.4.1.2: Styles of lamination process), given in the Participant Handbook.
- Explains the rotary moulding process of biscuits with the help of (Fig.4.1.3: Rotary moulding process) given in the Participant Handbook.

- Explains the laminators in biscuit making process with help of (Fig.4.1.4: Vertical with continuous lapper and Fig.4.1.5: Horizontal laminators), given in the Participant Handbook.
- Explain the process of baking plain biscuits with help of (Fig.4.1.6: Process of baking plain biscuits), given in the Participant Handbook.
- Explain the process of baking cream filled biscuit with help of (Fig.4.1.6: Mechanised process of centre filled cream biscuits), given in the Participant Handbook.
- Explain checks performed to verify quality of Biscuits with help of (Fig.4.1.7: Quality Check of Biscuits), given in the Participant Handbook.
- Explain different categories of packing (Fig.4.1.9: Categorization of Packaging), given in the Participant Handbook.
- Explain the maintenance process of machineries with help of (Fig. 4.1.12: Post Process Cleaning and Maintenance and Fig.4.1.13: Post Process Cleaning and Maintenance), given in the Participant Handbook.

Activity

Brief

- Demonstrate how many different methods of cleaning the work area and machinery

Activity Description

- Divide the class into 2 groups.
- Begin the discussion by asking questions like, which types of cleaning is used for different surface of work area and machinery
- Demonstrate the various instruments used in cleaning the work area and machinery examples.
- Initiate a discussion within the class asking about the different methods they can use

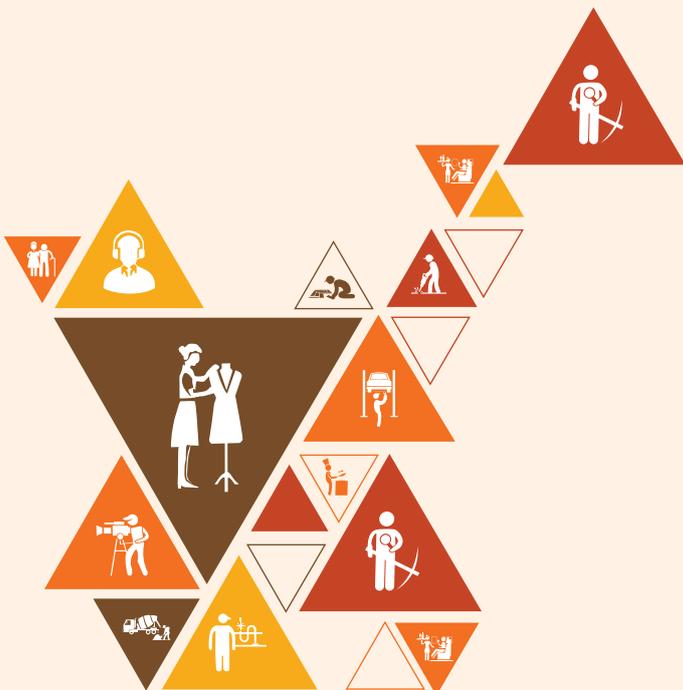
Debrief

- Summarize the Different Methods of cleaning the work area and machinery



5. Documentation

Unit 5.1 - Documentation and Record Keeping



FIC/N5011

Key Learning Outcomes

At the end of this module, you will be able to:

- Identify different types of dough
- Perform mixing operations for ingredients
- Laminating Dough
- Baking biscuits and preparing sandwich biscuits
- Cool and Pack biscuits
- Store raw material and finished products
- Perform Post Process clean-up and Maintenance

Unit 5.1 - Documentation and Record Keeping

Unit Objectives

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

- State the need for documenting and maintaining records of raw materials, process, and finished products;
- State the method of documenting and recording the details of raw material to final finished product.

Resources to be Used

- Whiteboard/Chart papers
- Marker

Do

- Provide students with copies of various documents and records and ask them to review them for accuracy, completeness, and compliance with regulations. This will help them develop an eye for detail and understand the importance of maintaining accurate records.
- Hide various documents and records around the classroom or lab and ask students to find and identify them. This can help them learn where different documents are typically stored and how to locate them quickly.
- Provide students with case studies that describe real-life situations where poor documentation and record-keeping led to product quality issues or regulatory violations. Ask them to work in groups to analyze the case studies and develop recommendations for how the situation could have been avoided or remedied through better documentation and record-keeping practices.

Say

- Documentation and record keeping are crucial practises in many industries, including healthcare, law, and finance.
- The process of recording relevant information, events, and transactions in a methodical and organised manner is referred to as documentation. It can take several forms, including written, digital, acoustic, and visual.
- Record keeping, on the other hand, refers to the retention and upkeep of these documents over time to ensure they are correct, up to date, and accessible.
- These practises aim to assure accountability, accuracy, and transparency, as well as to aid decision-making and communication between parties. Furthermore, they are frequently required by law and regulations and can assist in mitigating any legal and financial risks.

Ask

- Why is it important to keep accurate records during biscuit production?
- What are some examples of documentation that are required during biscuit production?
- How do you ensure that all necessary information is included in production records?
- How do you organize and store production records to ensure they are easily accessible and retrievable?
- What steps can be taken to ensure that production records are kept confidential and secure?

Notes for Facilitation

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain

- Need for Documentation
- Introduction to ERP Solutions

Activity

Brief

- Role play on different members of a food processing team .

Activity Description

- Divide students into small groups and assign them roles as different members of a food processing team, such as a production manager, quality control manager, and document controller.
- Ask them to work together to create a set of documents and records that they would need to maintain in order to ensure product quality and compliance with regulations.

Debrief

- To summarise the event, pose questions to the class like, "What did we do in this activity" What lesson did this exercise give us

Key Learning Outcomes



At the end of this module, you will be able to:

- 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

Unit 6.1 - Health and Safety

Unit Objectives

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

- Gain knowledge about safety including hazards, accidents, safety signs and signals.
- Understand the Heinrich Pyramid.
- Orient with Water Systems at Plant, Engineering related tools and techniques to operate the machine safely.
- Understand the clean room classifications and requirements.
- Relate with the clean room behaviour practices.
- Use Material Data Safety Sheet and Process of Safety Analysis.
- Orient with Fire Safety concepts, PPEs action to be taken in case of fire emergency at shop floor.
- Perform Job Safety Analysis for various production machines/ equipment and provide the critical information to concerned team members.
- Manage emergency procedures and apply first aid.
- Learn about basic professional and communication skills necessary to perform work successfully.

Resources to be Used

- Training kit (Trainer guide, Presentations)
- Whiteboard
- Marker
- Projector
- Laptop
- Presentation
- Protective gloves
- Head caps
- Aprons
- Safety goggles
- Safety boots
- Mouth covers
- Sanitizer
- Food safety manual
- Logbooks
- Participant Handbook

Do 

- Conduct a hazard identification and risk assessment exercise to identify potential hazards and risks in a food processing facility, and develop control measures to mitigate or eliminate them.
- Provide a tour of a food processing facility and point out the various safety features such as emergency exits, fire extinguishers, and personal protective equipment (PPE) stations.
- Use case studies to discuss real-life examples of workplace accidents and injuries that could have been prevented with proper health and safety measures.
- Conduct hands-on training sessions on how to use PPE such as gloves, safety glasses, and respirators.

Say 

- Health safety refers to the precautions taken to guarantee individuals' physical and mental well-being in a variety of situations, such as workplaces, schools, and public areas.
- It entails recognizing and assessing potential health risks, putting appropriate preventative measures in place, and responding quickly to emergencies. Proper hygiene, vaccination, the use of personal protective equipment, regular health exams, and disaster readiness planning are all examples of health safety practices.
- Health safety is critical for creating a healthy environment and preventing illness spread. It is a shared responsibility that necessitates the collaboration of individuals, organizations, and governments to ensure everyone's well-being.

Ask 

- What are some common workplace hazards and how can they be prevented?
- What is the importance of wearing appropriate personal protective equipment (PPE) in the workplace?
- What are some ergonomic considerations that should be taken into account in the workplace?
- How can employees be trained to identify and respond to emergency situations?
- What are the responsibilities of both employers and employees in maintaining a safe work environment?

Notes for Facilitation 

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain 

- What is an Accident?
- Accident Prevention and the Domino Theory

- Accident Prevention and Control
- What is a Safety Signs ?
- Prohibition Signs
- Emergency Escape and First-Aid Signs
- Acoustic signals
- Using Hand Signals
- Using verbal Signals
- HACCP
- GMP
- Personal Protective Equipment (PPEs)

Elaborate



- Explain Heinrich's Domino Theory with the help of (Fig.6.1.2: Heinrich's Domino Theory), given in the Participant Handbook.
- Explain what Heinrich proposed with the help of (Fig.6.1.3: Heinrich's Proposed), given in the Participant Handbook.
- Explain Heinrich's Loss Control Triangle with help of (Fig.6.1.5: Heinrich's Loss Control Triangle), given in the Participant Handbook.
- Explain warning signs used to identify different types of harmful substances help of (Fig.6.1.9: Warning signs for Harmful substances), given in the Participant Handbook.
- Explain Prohibition Signs with help of (Fig.6.1.10: Prohibition Signs), given in the Participant Handbook.
- Explain generally used warning signs with help of (Fig.6.1.11: Warning signs – General), given in the Participant Handbook.
- Explain generally used Mandatory Signs with help of (Fig.6.1.12 : Mandatory Signs), given in the Participant Handbook.
- Explain GMP with help of (Fig.6.1.15: GMP process), given in the Participant Handbook.
- Explain more about GMP with help of (Fig.6.1.16: focus area of GMP), given in the Participant Handbook.

Activity



Brief

- Each group must develop a list of role of good health in our life

Activity Description

- Divide the class into two groups or more, depending on the total number of participants.
- One of the groups has to come up with the ways role of good health in our life

Debrief

- Summarize the activity by asking the class questions like
 - What did we do in this activity
 - What did we learn from this activity

Unit 6.2 - First Aid and CPR

Unit Objectives

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

- Apply first aid on an injured person.
- Understand the procedures of doing CPR .

Resources to be Used

- Training kit (Trainer guide, Presentations)
- Whiteboard
- Marker
- Projector
- Laptop
- Presentation
- Protective gloves
- Head caps
- Aprons
- Safety goggles
- Safety boots
- Mouth covers
- Sanitizer
- Food safety manual
- Logbooks
- Participant Handbook

Do

- Start with an overview of what first aid and CPR are and their importance in emergency situations.
- Discuss the common medical emergencies that might occur in a baking industry setting and the appropriate response to each.
- Demonstrate the proper technique for administering CPR, including chest compressions and rescue breaths.
- Show how to perform basic first aid procedures, such as treating burns, cuts, and choking.
- Provide information on how to create and maintain a first aid kit and ensure that it is easily accessible in the workplace.

Say 

- First aid is defined as providing immediate assistance to an injured or sick individual until expert medical care arrives. It has the potential to prevent more harm, alleviate suffering, and even save a life. CPR, treating burns, cuts, and wounds, providing medication, and immobilising wounded limbs are all examples of basic first aid skills. In an emergency, it is critical to remain calm and focused and to summon assistance as soon as possible. Learning first aid can make you feel more confident and prepared to deal with a medical emergency, and taking a first aid course can give you with the knowledge and skills you need to do so.

Ask 

- What is the purpose of first aid?
- What are some common injuries that require first aid?
- What is CPR, and when should it be used?
- What are the steps involved in performing CPR?
- What are some common signs and symptoms of a heart attack?

Notes for Facilitation 

- Allow maximum participation to answer the questions.
- Explain the correct answers one by one.

Explain 

- First aid
- Splints and Aids of Torso
- Splints
- Performing CPR for an Adult
- CPR Using AED
- Chain of Survival

Elaborate 

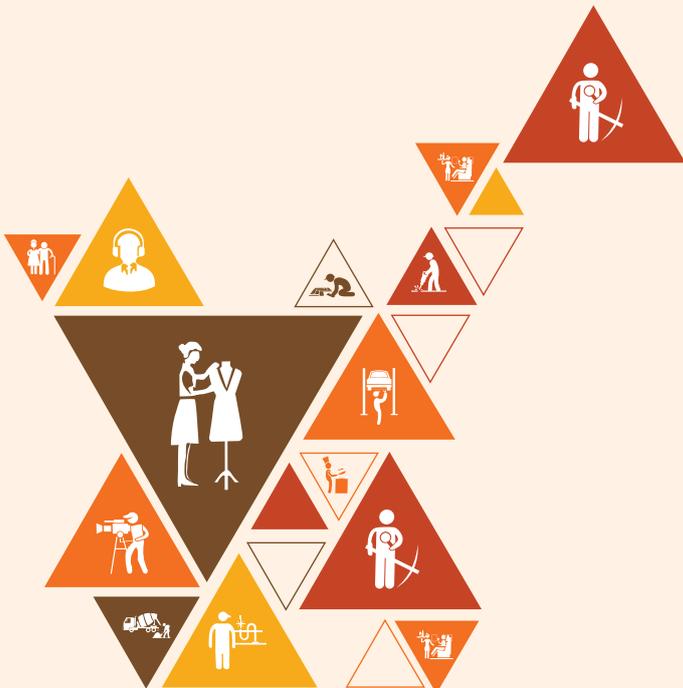
- Explain about first aid with the help of (Fig.7.2.2: Vital Signs , Fig.7.2.2: Vital Signs), given in the Participant Handbook.
- Explain how to give first aid for different injury with the help of (Fig.6. 2..4: First Aid for different types of injuries), given in the Participant Handbook.
- Explain about different types of burn and their first aid with help of (Fig.6.2.5: Degree of Burns), given in the Participant Handbook.
- Explain different ways a splint can be used of with help of (Fig.6.2.6: Splint the Forearm , Fig.6.2.7: splint the Wrist , Fig.6.2.8: Splint the Elbow , Fig.6.2.9: Splint the Upper Leg ,Fig.6.2.10: Splint the Lower Leg), given in the Participant Handbook.



7. Employability Skills



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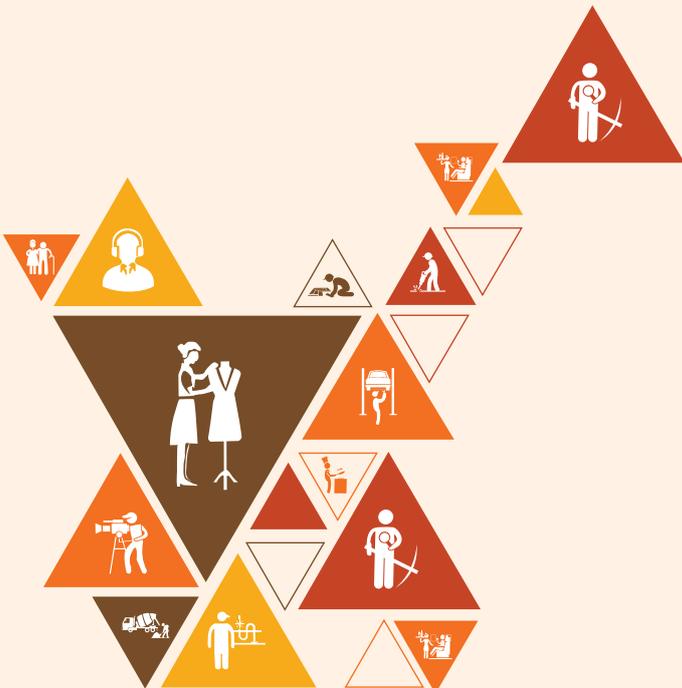


DGT/VSQ/N0102



8. Annexures

- Annexure - i (Training Delivery Plan)
- Annexure - ii (Assessment Criteria)
- Annexure - iii (QR Codes)



Annexure I (Training Delivery Plan)

S No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools Aids	Duration
1	Introduction to Training Programme	Introduction to the Training Programme	Explain the purpose of training	FIC/N5009	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.3 P : 0
		Introduction to the Training Programme (Contd...)	Discuss the National Occupational Standards and Qualification Pack		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.3 P : 0
		Overview of the Food Processing Industry	List the various sectors of the food processing industry		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Overview of the Food Processing Industry (Contd...)	Define food processing		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Overview of the Food Processing Industry (Contd...)	Describe the various stages of food processing for converting raw materials to food products		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Introduction to the Baking Industry and Bakery Products	List the various products of the bread and bakery sub-sector		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Introduction to the Baking Industry and Bakery Products (Contd...)	List the various types of industries within the bakery sub-sector		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Introduction to the Baking Industry and Bakery Products (Contd...)	Explain the baking process		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Roles and Responsibilities of Plant Biscuit Specialist	Understand the roles and responsibilities of a Plant Biscuit Production Specialist		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.2 P : 0
		Tools and Equipment in Baking Process	Identify various tools and equipment used in baking process		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 2 P : 4

S No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools Aids	Duration
2	Preparing Work Area, Tools and Equipment	Tools and Equipment in Baking Process (Contd...)	Use tools and equipment to carry out baking process	FIC/N5009	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 2 P : 4
		Tools and Equipment in Baking Process (Contd...)	Dispose waste according to company SOP		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 2 P : 4
		Sanitisation of the Work Area	State the materials and equipment used in cleaning and maintenance of the work area and machineries		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 4
		Sanitisation of the Work Area (Contd...)	List the various cleaning chemicals required		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 4
3	Preparing For Biscuit Production	Basic Calculations	Use basic mathematics for various calculations in day-to-day processes	FIC/N5010	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling	Read and Understand Production Order		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Check availability of raw material		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Calculate weight of dough required		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Plan production sequence		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Ensure working of machines and equipment		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2

S No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools Aids	Duration
		Selection of Raw Material and Handling (Contd...)	Calculate process time for production		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Assign work to workers		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Weigh material required and check quality of material		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Selection of Raw Material and Handling (Contd...)	Organise and start machines		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
4	Producing Biscuits	Producing Biscuits	Identify different types of dough	FIC/N5011	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 8 P : 16
		Producing Biscuits (Contd...)	Perform mixing operations for ingredients		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14
		Producing Biscuits (Contd...)	Laminating Dough		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14
		Producing Biscuits (Contd...)	Baking biscuits and preparing sandwich biscuits		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14
		Producing Biscuits (Contd...)	Cool and Pack biscuits		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14
		Producing Biscuits (Contd...)	Store raw material and finished products		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14

S No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools Aids	Duration
		Producing Biscuits (Contd...)	Perform Post Process clean-up and Maintenance		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 7 P : 14
5	Documentation	Documentation and Record Keeping	State the need for documenting and maintaining records of raw materials, process, and finished products;	FIC/N5012	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 5 P : 10
		Documentation and Record Keeping (Contd...)	State the method of documenting and recording the details of raw material to final finished product.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 5 P : 10
6	Health and Hygiene	Health and Safety	Gain knowledge about safety including hazards, accidents, safety signs and signals.	FIC/N9001	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Understand the Heinrich Pyramid.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Orient with Water Systems at Plant, Engineering related tools and techniques to operate the machine safely.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Understand the clean room classifications and requirements.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Relate with the clean room behaviour practices.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Use Material Data Safety Sheet and Process of Safety Analysis.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Orient with Fire Safety concepts, PPEs action to be taken in case of fire emergency at shop floor.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2

S No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools Aids	Duration
		Health and Safety (Contd...)	Perform Job Safety Analysis for various production machines/ equipment and provide the critical information to concerned team members.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 1 P : 2
		Health and Safety (Contd...)	Manage emergency procedures and apply first aid.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.5 P : 1
		Health and Safety (Contd...)	Learn about basic professional and communication skills necessary to perform work successfully.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.5 P : 1
		First Aid and CPR	Apply first aid on an injured person.		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.5 P : 1
		First Aid and CPR (Contd...)	Understand the procedures of doing CPR .		Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 0.5 P : 1
7	Employability Skills	Employability Skills	-	DGT/VSQ/NO 102	Interactive Lecture in the Class	Participant handbook, Projector Whiteboard, Marker, and Duster	T : 24 P : 36

Annexure - II

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare and maintain work area (for production of biscuits in industrial units)</i>	18	32	-	-
PC1. clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests	10	15	-	-
PC2. ensure that the work area is safe and hygienic for food processing	3	7	-	-
PC3. dispose waste materials as per defined SOPs and industry requirements	5	10	-	-
<i>Prepare and maintain process machineries and tools (for production of biscuits in industrial units)</i>	17	33	-	-
PC4. check the working and performance of all machineries and tools used for production such as proof box, oven, packaging machines, etc.	5	10	-	-
PC5. clean the machineries and tools used with approved sanitizers following specifications and sops	5	10	-	-
PC6. place the necessary tools required for process	2	3	-	-
PC7. attend to the minor repairs/ faults of all machines, if required	5	10	-	-
NOS Total	35	65	-	-
<i>Plan for production(for biscuits in industrial units)</i>	9	21	-	-
PC1. read and understand the production order from the supervisor	1	4	-	-
PC2. check the availability of raw materials and ingredients such as flour, sugar, shortenings, additives, preservatives, etc., packaging materials, working of machineries and availability of manpower	2	3	-	-
PC3. calculate total weight of dough required for order quantity (considering process loss)	1	4	-	-

PC4. plan production sequence by: grouping similar type of products (hard and soft biscuits) grouping similar type of dough (hard and soft dough) grouping products that require similar process and process parameters grouping products that require same processing machineries planning maximum capacity utilization of machineries avoiding clean- in-place (CIP) after each type of product planning efficient utilization of resources/manpower prioritizing urgent orders	5	10	-	-
<i>Plan equipment utilization and manpower (for production of biscuits in industrial units)</i>	9	15	-	-
PC5. ensure the working and performance of each equipment required for the process	2.5	4.5	-	-
PC6. calculate the process time for each batch for effective utilization of machineries	3	4	-	-
PC7. plan batch size considering full capacity utilization of machineries	1.5	1.5	-	-
PC8. allot responsibilities/ work to the assistants and helpers	2	5	-	-
<i>Organize and check equipments and raw material for carrying out production (for biscuits in industrial units)</i>	17	29	-	-
PC9. refer to the process chart/ product flow chart/formulation chart for product(s) produced	2	3	-	-
PC10. weigh the raw materials and ingredients required for the batch	2	3	-	-
PC11. check the conformance of raw material quality to organization standards by verifying the quality analysis report from the supplier/ internal lab and by checking the physical parameters like appearance, colour, aroma, texture etc	1	4	-	-
PC12. organize the equipments as per the process requirement	1	2	-	-
PC13. change dies, moulds, etc. and other parts of machineries to prepare for production	3	7	-	-
PC14. start machine and check the working and performance of the machine	2	3	-	-
PC15. make minor adjustments or repairs (if required)	5	5	-	-

PC16. keep the tools accessible to attend repairs/faults in case of breakdown	1	2	-	-
NOS Total	35	65	-	-
<i>Organize raw materials</i>	6	8	-	-
PC1. refer to the work order and formulation and organize all the ingredients required for the order	1	1	-	-
PC2. check the quality of each ingredient through physical parameters such as appearance, colour, odour, texture, etc. for its conformance to organization standards	1	1	-	-
PC3. weigh and measure all ingredients such as flour, fat, water, sugar, additives, flavours, spices, etc. required for product/batch and sift the ingredients manually (in manually operated unit)	1	1	-	-
PC4. set and control metering devices that weigh, measure, sift, and convey each approved ingredients into the mixing machine for each ingredients such as flour, fat, water, sugar, additives, approved flavours and colours spices etc required for the product (in mechanized unit)	2	3	-	-
PC5. check the scale indicators to confirm if specified amount of ingredients have been added	1	2	-	-
<i>Mix Ingredients</i>	3.5	8.5	-	-
PC6. mix all the ingredients manually to desired consistency	0.5	0.5	-	-
PC7. transfer all the ingredients together or sequentially into the mixer depending on the method followed by the organization	0.5	1.5	-	-
PC8. set the mixer speed, time and temperature depending on the mixing processes followed by the organization and start the mixer to mix and knead the ingredients to make hard/ soft dough for biscuits	0.5	1.5	-	-
PC9. control the mixing time and mixing temperature which are critical for making hard/soft dough for biscuits	0.5	1.5	-	-
PC10. check the dough consistency periodically until achieving dough of desired consistency	0.5	1.5	-	-
PC11. ferment the dough, if required	1	2	-	-
<i>Laminate and mould dough</i>	6.5	15.5	-	-

PC12. feed the hard dough into the layering or forming machines or dough feeder as required	1	2	-	-
PC13. ensure the correct forming and moulding of the dough	0.5	1.5	-	-
PC14. set the controls of each sheeting roller of the laminator machine to produce continuous sheet of hard dough as per specifications and standards (for hard dough)	0.5	1.5	-	-
PC15. set the required moulding roller/ cutter/ die)	0.5	1.5	-	-
PC16. set the controls of rotary cutter machine to cut the sheet of hard dough to desired size, shape and design as per specifications and standards of the organization	2	3	-	-
PC17. set the controls of the conveyors to separate the cut hard dough and control scrap return	0.5	1.5	-	-
PC18. control operation of the sprinkler	0.5	1.5	-	-
PC19. set the controls of rotary cutter machine and start machine to mould soft dough to desired size, shape, weight and thickness as per specifications and standards of the organization (for soft dough)	0.5	1.5	-	-
PC20. ensure correct transfer of dough pieces to the oven band	0.5	1.5	-	-
<i>Bake biscuits</i>	10	16	-	-
PC21. pre-heat the oven and set the oven parameters such as baking temperature and baking time (batch process), load the filled pans /moulds in the oven and bake the dough monitoring oven parameters during baking process	2	3	-	-
PC22. set and maintain the speed of the panning conveyor to control the shaped/moulded dough entering the tunnel oven (continuous process)	1	2	-	-
PC23. set the oven parameters such as temperature, time, conveyor speed, etc. and monitor the oven parameters during baking process	0.5	1.5	-	-
PC24. observe baking of biscuits through the observation window of the tunnel oven	0.5	0.5	-	-
PC25. observe quality of baked biscuit coming out of oven through parameters such as color, aroma, texture, etc. to detect over baking /under baking and control oven parameters to achieve finished product of uniform quality	2	3	-	-

PC26. remove non-conforming products from the conveyor	1	2	-	-
PC27. check the quality of the finished products through physical parameters such as colour, size, appearance, texture, aroma, taste, etc. and compare against standard	2	3	-	-
PC28. set, control and maintain speed of the cooling conveyor to cool the biscuit	1	1	-	-
<i>Prepare centre filled/sandwich biscuits</i>	5.5	11.5	-	-
PC29. weigh the ingredients such as fat, sugar, chocolate, flavour, etc. required for preparing the cream/centre filling material for soft dough biscuits	1	2	-	-
PC30. transfer the ingredients into the mixer, set and adjust controls and start mixer to mix cream ingredients	1	2	-	-
PC31. transfer cream into the cream feed and set controls of metering devices of cream feed on the sandwiching machine	0.5	1.5	-	-
PC32. set controls of the sandwiching machine to fill measured quantity of cream on soft dough biscuit, position and place another soft dough biscuit over cream filled biscuit, press the biscuits and maintain the thickness of the cream biscuit	0.5	1.5	-	-
PC33. check the quality of the finished products through physical parameters such as colour, size, appearance, texture, aroma, taste etc. and compare against standard	0.5	1.5	-	-
PC34. remove non-conforming products from the conveyor	1	1	-	-
PC35. report discrepancies/concerns in each stage of production to department supervisor for immediate action	1	2	-	-
<i>Post process cleaning and regular maintenance of equipments</i>	3.5	5.5	-	-
PC36. clean the work area, machineries, equipment and tools using recommended cleaning agents and sanitizers	1	1	-	-
PC37. attend minor repairs/faults of all machines (if any)	0.5	1.5	-	-
PC38. ensure periodic (daily/weekly/monthly/quarterly/half yearly/annual) maintenance of all machines and equipment following the sop or following suppliers instructions/manuals	2	3	-	-
NOS Total	35	65	-	-

<i>Document and maintain record of raw material (for production of biscuits in industrial units)</i>	15	10	-	-
PC1. document and maintain record of all raw materials used for making biscuits such as name of raw materials, supplier details, batch number, receiving date/ date of manufacture, expiry date, supplier quality document, quality parameters of all raw materials, internal quality analysis report, etc. as per organizational standards	6	4	-	-
PC2. maintain record of observations (if any) related to raw materials	3	2	-	-
PC3. load the raw materials details in erp for future reference	3	2	-	-
PC4. verify the documents and track from finished product to raw materials, in case of quality concerns and during quality management system audit	3	2	-	-
<i>Document and maintain record of production schedule and process parameters (for production of biscuits in industrial units)</i>	30	20	-	-
PC5. document and maintain record of production details such as the product produced, production sequence, equipments and machinery details, efficiency and capacity utilization of equipment	6	4	-	-
PC6. document and maintain record of process details such as type of raw material used, type of dough, process parameters (temperature, time, etc.) for entire process in process chart or production log for all products produced	9	6	-	-
PC7. document and maintain record of batch size, raw material used, yield after each stage of process, wastage, energy utilization and final products produced	6	4	-	-
PC8. maintain record of observations (if any) or deviations related to production and process parameters	3	2	-	-
PC9. load the production plan and process details in ERP for future reference	3	2	-	-
PC10. verify documents and track from finished product to ingredients, in case of quality concerns and for quality management system audits	3	2	-	-
<i>Document and maintain record of finished products (for production of biscuits In industrial units)</i>	15	10	-	-

PC11. document and maintain record of finished products details such as type of products produced, quantity produced per batch, quantity produced in each type of product, batch number, time of packing, date of manufacture, date of expiry, other label details, primary ,secondary and tertiary packaging materials for all finished products, storage conditions, etc. as per organizational standards	6	4	-	-
PC12. maintain record of observations or deviations (if any) related to finished products	3	2	-	-
PC13. load the details of finished products in ERP for future reference	3	2	-	-
PC14. verify the documents and track from finished product to raw materials, in case of quality concerns and for quality management system audits	3	2	-	-
NOS Total	60	40	-	-
<i>Perform safety and sanitation related functions (for processing food products)</i>	25	50	-	-
PC1. comply with food safety and hygiene procedures followed in the organization	2	3	-	-
PC2. ensure personal hygiene by use of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.	1	5	-	-
PC3. ensure hygienic production of food by inspecting raw materials, ingredients, finished products etc. for compliance to physical, chemical and microbiological parameters	2	3	-	-
PC4. pack products in appropriate packaging materials, label and store them in designated area, free from pests, flies and infestations	4	6	-	-
PC5. clean, maintain and monitor food processing equipment periodically, using it only for the specified purpose	2	3	-	-
PC6. use safety equipment such as fire extinguisher, eye wash unit, first aid kit when required	4	6	-	-
PC7. follow housekeeping practices by having designated area for machines/tools	2	3	-	-
PC8. follow industry standards like GMP, HACCP and product recall process	4	6	-	-

PC9. attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them	1	4	-	-
PC10. Identify, document and report problems such as rodents and pests to management	1	4	-	-
PC11. conduct workplace checklist audit before and after work to ensure safety and hygiene	1	4	-	-
PC12. document and maintain raw material, packaging material, process and finished products for the credibility and effectiveness of the food safety control system	1	3	-	-
<i>Apply food safety practices (for processing food products)</i>	10	15	-	-
PC13. determine the quality of food using criteria such as odour, appearance, taste and best before date, and take immediate measures to prevent spoilage	2	3	-	-
PC14. store raw materials, finished products and allergens separately to prevent cross contamination	2	3	-	-
PC15. label raw materials and finished products and store them in different storage areas according to safe food practices	2	3	-	-
PC16. follow stock rotation based on FEFO/FIFO	4	6	-	-
NOS Total	35	65	-	-
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
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	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
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	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
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	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-

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	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-
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	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
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	-	-	-	-
NOS Total	20	30	-	-

Annexure - III

QR Codes

Module No.	Unit No.	Topic Name	Page No	Link for QR Code (s)	QR code (s)
1. Introduction to Training Programme	UNIT 1.1: Introduction to the Training Programme	1.1.1 Purpose and Benefits of the Training Programme	10	https://www.youtube.com/watch?v=J-2EiMVNtpM&t=11s	 Overview of Food processing industry
	UNIT 1.4: Roles and Responsibilities of Plant Biscuit Specialist	1.4.3 Key Roles and Responsibilities	10	https://www.youtube.com/watch?v=ATFOGZPsBG8	 Plant Biscuit Production Specialist
	UNIT 1.3: Introduction to the Baking Industry and Bakery Products	1.3.1 Introduction to the Bread and Bakery Industry	10	https://www.youtube.com/watch?v=sy2ImQvTMIQ	 Introduction to the Bread and Bakery Industry
3. Preparing For Biscuit Production	UNIT 3.2: Selection of Raw Material and Handling	3.2.1 Understanding Order and Raw Material Availability	36	https://www.youtube.com/watch?v=soYqEHQYRyc	 Machines and Equipment used in Baking Technician
		3.2.4 Ascertaining Quality of Raw Material	36	https://www.youtube.com/watch?v=S68TG5SVBMk	 Baking process

Module No.	Unit No.	Topic Name	Page No	Link for QR Code (s)	QR code (s)
4. Producing Biscuits	UNIT 4.1: Producing Biscuits	4.1.1 Types of Dough	56	https://www.youtube.com/watch?v=N382yRgS6q0	 Packaging of Bakery Products
5. Documentation	UNIT 5.1: Documentation and Record Keeping	5.1.2 How to Keep Records?	62	https://www.youtube.com/watch?v=kcpGIHBpphA&t=62s	 Documentation
6. Health and Hygiene	UNIT 6.1: Health and Safety	6.1.13 HACCP	87	https://www.youtube.com/watch?v=RS4A-uczS6E&t=554s	 GHP,GMP & HACCP
		6.1.13.1 GMP	87	https://www.youtube.com/watch?v=daNjRoP_I0c&t=87s	 Personnel hygiene and employee facilities
		6.1.14 Personal Protective Equipment (PPEs)	87	https://www.youtube.com/watch?v=daNjRoP_I0c&t=83s	 Hygiene and sanitation
Employability Skills				https://eskillindia.org/NewEmployability	

Notes



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