



# Model Curriculum

**QP Name: Preservation Technician-Fruits and Vegetables**

**QP Code: FIC/Q0202**

**Version: 2.0**

**NSQF Level: 3.0**

**Model Curriculum Version: 2.0**

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## Training Parameters

<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO2015/7514.0700
<b>Minimum Educational Qualification and Experience</b>	10 <sup>th</sup> Grade Pass or equivalent OR 8th-grade pass with 3-year experience in the food industry OR Previous relevant Qualification of NSQF Level 2.0 with 3-year experience in the Food Industry OR Previous relevant qualification of NSQF Level 2.5 with 1.5-year experience in the food industry
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	16 Years
<b>Last Reviewed On</b>	18-02-2025
<b>Next Review Date</b>	17-02-2028
<b>NSQC Approval Date</b>	18-02-2025
<b>QP Version</b>	2.0
<b>Model Curriculum Creation Date</b>	18-02-2025
<b>Model Curriculum Valid Up to Date</b>	17-02-2028
<b>Model Curriculum Version</b>	2.0
<b>Minimum Duration of the Course</b>	390 Hours
<b>Maximum Duration of the Course</b>	390 Hours

## Program Overview

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

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Explain how to effectively prepare for production, including the organization of materials, tools, and equipment required for fruit and vegetable preservation.
- Describe the steps involved in carrying out the preservation of fruits and vegetables, focusing on the techniques used to maintain their quality and extend shelf life.
- Discuss the basic health and safety practices to be followed at a food processing workplace.
- Discuss the Employability and Entrepreneurship Skills.

### Compulsory Modules

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

NOS and Module Details	Theory Duration (Hours)	Practical Duration (Hours)	On-the-Job Training Duration (Mandatory) (Hours)	On-the-Job Training Duration (Recommended) (Hours)	Total Duration (Hours)
<b>FIC/N9026: Prepare for Production</b> NOS Version No.: 1.0 NSQF Level: 3.0	20:00	40:00	00:00	00:00	60:00
Module 2: Carry Out Preparation for Production	20:00	40:00	00:00	00:00	60:00
<b>FIC/N0203: Carry out the preservation of fruits and vegetables</b> NOS Version No.: 2.0 NSQF Level: 3.0	60:00	150:00	60:00	00:00	270:00
Module 1: Introduction to the sector and the job role of a Preservation Technician- Fruits and Vegetables	05:00	00:00	00:00	00:00	05:00
Module 3: Drying Fruits and Vegetables	20:00	50:00	30:00	00:00	100:00
Module 4: Canning Fruits and Vegetables	20:00	50:00	15:00	00:00	85:00
Module 5: Freezing Fruits and Vegetables	15:00	50:00	15:00	00:00	80:00

<b>FIC/N9906: Apply food safety guidelines in Food Processing</b> <b>NOS Version No.: 1.0</b> <b>NSQF Level: 3</b>	<b>10:00</b>	<b>20:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>
Module 6: Implement Personal Hygiene and Good Manufacturing Practices	05:00	10:00	00:00	00:00	15:00
Module 7: Apply Food Safety Practices at Workplace	05:00	10:00	00:00	00:00	15:00
<b>DGT/VSQ/N0101: Employability Skills (30 Hours)</b> <b>NOS Version No.: 1.0</b> <b>NSQF Level: 2</b>	<b>30:00</b>	<b>00:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>
Module 8: Employability Skills (30 Hours)	30:00	00:00	00:00	00:00	30:00
<b>Total Duration</b>	<b>120:00</b>	<b>210:00</b>	<b>60:00</b>	<b>00:00</b>	<b>390:00</b>

## Module Details

### Module 1: Introduction to the sector and the job role of a Preservation Technician- Fruits and Vegetables

*Mapped to FIC/N0203, v2.0*

#### Terminal Outcomes:

- Explain the importance of Food Processing Industry.
- Discuss the roles and responsibilities of a Preservation Technician-Fruits and Vegetables.

Duration (in hours): 05:00	Duration (in hours): 00:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Define food processing.</li> <li>• Describe the various sub-sectors of food processing industry.</li> <li>• Discuss the scope of employment in the food processing industry.</li> <li>• Describe the roles &amp; responsibilities of a Preservation Technician- Fruits and Vegetables.</li> <li>• Discuss the future trends and career growth opportunities available to the Preservation Technician- Fruits and Vegetables.</li> </ul>	
<b>Classroom Aids</b>	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
<b>Tools, Equipment and Other Requirements</b>	
Nil	

## Module 2: Carry Out Preparation for Production

*Mapped to FIC/N9026, v1.0*

### Terminal Outcomes:

- Discuss the standard practices to be followed to plan for production.
- Demonstrate the tasks to be performed to prepare for the production process.

Duration (in hours): 20:00	Duration (in hours): 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss how to plan and prioritize the tasks to be performed.</li> <li>• State the importance of obtaining work instructions from supervisor to plan the work process.</li> <li>• State the importance of process chart, product flow chart, formulation, chart, etc. to obtain required information.</li> <li>• List the materials, equipment and manpower required in the selection of fruits and vegetables.</li> <li>• List the key considerations to prepare the work schedule.</li> <li>• Identify the resource requirements as per the production schedule.</li> <li>• Explain how to utilise the machine capacity of the machinery involved with respect to the processing time, production order and batch size for each product.</li> <li>• List the chemical agents, sanitisers and methods used to clean the work area.</li> <li>• Identify different kinds of waste material and comprehend the ways to dispose them safely.</li> <li>• Describe how to carry out inspection of tools, equipment, and machinery to be used in the job.</li> <li>• Discuss the policies and procedures to be followed to prepare for the work process.</li> <li>• State the importance of inspecting tools, equipment and machinery on a timely basis.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to prepare a plan to carry out various tasks as required in the job.</li> <li>• Show how to prepare sample estimates for resource requirements to carry out the tasks.</li> <li>• Demonstrate method to be followed for cleaning (CIP, COP etc) and maintaining a clean work area.</li> <li>• Demonstrate the use of different tools and machineries used in the selection of fruits and vegetables.</li> <li>• Show how to identify, label and store different chemicals in food processing unit safely.</li> <li>• Demonstrate with help of roleplay a situation on how to allot work and responsibilities to the team and confirm that they have understood.</li> <li>• Demonstrate the procedure to be followed for disposing the waste material (wet, dry, plastic, packaging material, food waste and glass waste) as per environmentally safe practices.</li> <li>• Show how to inspect the tools, equipment and machinery thoroughly for production.</li> <li>• Demonstrate how to receive and organize the work materials appropriately.</li> </ul>
<b>Classroom Aids</b>	

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

#### **Tools, Equipment and Other Requirements**

Process related documents, list of raw materials, tools, equipment and machinery, organizational documents, logbook, Packaging Material, Refrigerator, Gas Burner (LPG), LPG Cylinders, Worktable, Sinks.

## Module 3: Drying Fruits and Vegetables

Mapped to FIC/N0203, v2.0

### Terminal Outcomes:

- Explain the process of drying fruits and vegetables and its importance in food preservation.

Duration (in hours): 20:00	Duration (in hours): 50:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the principles of preserving fruits and vegetables through drying.</li> <li>• Discuss the fruits and vegetables suitable for drying based on their structure and moisture content.</li> <li>• Identify the processes concerning procurement, store management, and quality management for produce used in drying.</li> <li>• Describe the industry standards to assess incoming produce for spoilage or damage before drying.</li> <li>• Explain the washing techniques appropriate for different types of produce before drying, such as using chlorinated water or high-pressure spraying systems.</li> <li>• Describe the criteria for sorting the washed produce to eliminate inconsumable or damaged items.</li> <li>• Describe the process of sun-drying and mechanical drying of fruits and vegetables, including optimal drying conditions, exposure time, and moisture content monitoring.</li> <li>• Explain the principles of dehydration, including its effect on moisture content and how it impacts produce quality.</li> <li>• Discuss the operational guidelines for mechanical dryers, including bed, tunnel, and tray dryers.</li> <li>• Explain how to control temperature, humidity, and airflow for drying different types of produce.</li> <li>• Describe the importance of assessing produce for uniform drying to achieve optimal quality.</li> <li>• Explain solar drying techniques, focusing on optimal sunlight exposure and airflow management.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to check the weight, appearance, color, texture, and maturity of produce received from the supplier to assess its quality.</li> <li>• Demonstrate the process of filling the washing tank with water to the recommended level.</li> <li>• Show how to safely transfer produce into the washing tank.</li> <li>• Demonstrate how to wash fruits and vegetables to remove dirt, soil, and other contaminants.</li> <li>• Show how to rinse produce by using a high-pressure chlorinated water spray at the recommended pressure.</li> <li>• Demonstrate the inspection of produce to remove damaged, blemished, or rotten items.</li> <li>• Show how to dispose of segregated inconsumable produce following applicable procedures.</li> <li>• Demonstrate how to prepare and maintain a lye solution for peeling operations.</li> <li>• Show how to peel fruits and vegetables using appropriate tools.</li> <li>• Demonstrate the blanching process, ensuring proper monitoring of temperature and time.</li> <li>• Show how to inspect blanched produce for texture, color, and consistency.</li> <li>• Demonstrate the arrangement of produce for sun-drying at a suitable spot.</li> <li>• Show how to sun-dry produce for the recommended duration, ensuring proper</li> </ul>

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| <ul style="list-style-type: none"> <li>• Explain the moisture content and texture standards for dried products.</li> <li>• Identify the appropriate packaging materials and storage conditions to maintain the quality of dried food products.</li> </ul> | <p>exposure to sunlight.</p> <ul style="list-style-type: none"> <li>• Demonstrate how to check dried produce for complete moisture removal, and evaluate color, dryness, and firmness.</li> <li>• Show how to set up and operate mechanical dryers, such as bed dryers, tunnel dryers, and tray dryers, following product specifications and manufacturer guidelines.</li> <li>• Demonstrate how to monitor temperature, humidity, and airflow in mechanical dryers for uniform drying.</li> <li>• Show how to rotate or turn produce in mechanical dryers, if required, to ensure even drying.</li> <li>• Demonstrate the inspection of produce during and after drying to check for moisture content, texture, and signs of under- or over-drying.</li> <li>• Show how to operate solar dryers, ensuring optimal exposure to sunlight and airflow management.</li> <li>• Demonstrate routine checks on solar dryers to prevent contamination or damage to produce during drying.</li> <li>• Show how to perform quality checks on dried products by assessing moisture content, texture, aroma, and appearance.</li> <li>• Demonstrate how to sort and grade dried products based on quality parameters before packaging.</li> <li>• Show how to pack dried produce using suitable packaging materials to maintain quality and shelf life while ensuring compliance with food safety standards.</li> <li>• Demonstrate the accurate labeling of packaged dried produce with necessary details such as batch number, manufacturing date, expiry date, and storage instructions.</li> <li>• Show how to store dried products in appropriate conditions to prevent moisture re-absorption and maintain quality.</li> </ul> |
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#### Classroom Aids

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

#### **Tools, Equipment and Other Requirements**

Fruit Washer, Peeler, Fruit Pulper, Juice Extractor, Clarifier, Filter, Pasteurizer, Steam Jacketed Kettles, Packaging Machines, Protective Gloves, Head Caps, Lab Coat, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, Dehydrator, Grading Machines, Sorting Conveyors, Slicing Machine, Dicing Machine, Heat Sealing Machine, Metal Detector, X-ray Inspection System, Weighing Scales, Shrink-Wrapping Machine, Nitrogen Flush Packaging Machine, Sterilization Equipment, Cold Storage Units, Moisture Meter, Colour Sorter, Packaging Trays

## Module 4: Canning Fruits and Vegetables

Mapped to FIC/N0203, v2.0

### Terminal Outcomes:

- Explain the principles and procedures for canning fruits and vegetables to ensure their preservation and safety.

Duration (in hours): 20:00	Duration (in hours): 50:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the principles of preserving fruits and vegetables through canning.</li> <li>• Discuss the fruits and vegetables suitable for canning based on factors such as texture and acidity levels.</li> <li>• Describe the procurement, store management, inventory control, and quality management processes for canning.</li> <li>• Explain the industry standards for assessing incoming produce for quality and suitability for canning.</li> <li>• Explain how to sort, grade, peel, core, and pit fruits and vegetables to prepare for canning.</li> <li>• Describe the appropriate cutting techniques for different types of fruits and vegetables before canning.</li> <li>• Explain the role of anti-oxidative treatments (e.g., ascorbic acid or calcium dips) to prevent browning during canning.</li> <li>• Discuss the use of sterilizing equipment such as steam sterilizers for bacteria elimination before canning.</li> <li>• Explain the process of filling cans with syrup or brine, ensuring appropriate concentration and hygiene.</li> <li>• Explain the use of double seamers for proper sealing and the exhaustion of air from cans.</li> <li>• Describe the heat processing method for sterilization, including steam sterilizers and autoclaves.</li> <li>• Explain the canning processes, including pH levels and factors that influence product stability.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the process of checking the suitability of fruits and vegetables for canning.</li> <li>• Show how to wash, sort, and grade fruits and vegetables to remove damaged or inferior produce.</li> <li>• Demonstrate the peeling, coring, and pitting of fruits and vegetables in preparation for canning.</li> <li>• Show how to cut, split, or slice fruits and vegetables as required.</li> <li>• Demonstrate the blanching process at the recommended temperature and duration.</li> <li>• Show how to apply treatments to prevent oxidative browning in fruits and vegetables.</li> <li>• Demonstrate how to sterilize cans and fill them with syrup or brine, ensuring hygiene and accuracy.</li> <li>• Show how to seam cans using double seamers, ensuring proper sealing and air exhaustion.</li> <li>• Demonstrate heat processing for sterilization, following recommended temperature and duration guidelines.</li> <li>• Show how to cool sealed cans to halt the cooking process and prevent stack burning.</li> <li>• Demonstrate the inspection of cooled cans for leaks, deformation, or defects to ensure sealing integrity.</li> <li>• Show how to perform quality checks on canned products, such as visual inspections, pH measurements, and taste</li> </ul>

<ul style="list-style-type: none"> <li>• Explain the labelling requirements for canned products, including regulatory guidelines.</li> <li>• Describe the quality control methods for inspecting can integrity and identifying common defects.</li> <li>• Explain the ideal storage conditions for canned products, focusing on temperature and humidity to prevent spoilage.</li> </ul>	<p>tests.</p> <ul style="list-style-type: none"> <li>• Demonstrate how to label canned products accurately with product name, batch number, manufacturing date, and expiry date following regulations.</li> <li>• Show how to apply labels securely to avoid misalignment or damage.</li> <li>• Demonstrate secondary packaging techniques, such as placing labeled cans in cartons or shrink-wrapping, to protect them during storage and transport.</li> <li>• Show how to maintain detailed production records, including fruits and vegetables used, process parameters, and post-production activities.</li> <li>• Demonstrate how to store canned products in designated areas with proper temperature and humidity control to prevent spoilage.</li> <li>• Show how to monitor inventory to ensure stock rotation and timely dispatch of canned products.</li> </ul>
<p><b>Classroom Aids</b></p>	
<p>Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Fruit Washer, Sorting Conveyor, Grading Machines, Peeling Machine, Coring Machine, Pitting Machine, Slicing Machine, Blancher, Anti-Discoloration Treatment Applicator, Freezing Unit, Moisture Meter, and Protective Gear (such as Gloves, Head Caps, Lab Coats, Safety Goggles, Safety Boots, and Mouth Masks)</p>	

## Module 5: Freezing Fruits and Vegetables

Mapped to FIC/N0203, v2.0

### Terminal Outcomes:

- Describe the specific methods and standards used for freezing fruits and vegetables to maintain quality and prevent spoilage.

Duration (in hours): 15:00	Duration (in hours): 50:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the principles of preserving fruits and vegetables through freezing.</li> <li>• Discuss the fruits and vegetables suitable for freezing based on their composition and moisture levels.</li> <li>• Explain the pre-freezing treatment processes, such as blanching, to deactivate spoilage-causing enzymes.</li> <li>• Describe the use of anti-discolouration agents, such as ascorbic acid, for fruits prone to browning during freezing.</li> <li>• Explain the processes and techniques used in freezing fruits and vegetables, including air blast, cryogenic, and immersion freezing.</li> <li>• Identify the factors affecting freezing quality, such as ice crystal formation and dehydration, and their impact on produce texture and flavour.</li> <li>• Discuss the appropriate packaging materials and methods, such as vacuum packaging, for frozen products to ensure quality and extended shelf life.</li> <li>• Explain how to assess the texture, flavour, and appearance of thawed products to ensure quality assurance.</li> <li>• Describe the microbial risks associated with freezing and methods to prevent contamination.</li> <li>• Explain the labelling and documentation requirements for frozen food products, adhering to regulatory standards.</li> <li>• Explain the storage requirements, including optimal temperature and humidity conditions, to maintain the quality of frozen food.</li> <li>• Discuss the use and maintenance of modern equipment such as blast freezers, vacuum packaging machines,</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the application of pre-freezing treatments such as blanching to prepare fruits and vegetables.</li> <li>• Show how to sort fruits and vegetables, discarding inferior or damaged produce based on quality standards.</li> <li>• Demonstrate the application of anti-discoloration treatments such as ascorbic acid on relevant produce.</li> <li>• Show how to carry out air blast freezing using high-velocity cold air for quick, even freezing.</li> <li>• Demonstrate the process of contact plate freezing for flat-packed produce, ensuring efficient freezing.</li> <li>• Show how to use fluidized bed freezing for IQF products, ensuring individual pieces of produce are frozen.</li> <li>• Demonstrate the use of cryogenic freezing to minimize ice crystal formation and retain product quality.</li> <li>• Show how to perform tunnel freezing by transporting fruits and vegetables through controlled-temperature environments.</li> <li>• Demonstrate immersion freezing, immersing produce in freezing liquids such as glycol or brine for rapid cooling.</li> <li>• Show how to conduct innovative freezing techniques such as Pressure Shift Freezing (PSF) and magnetic freezing, if feasible.</li> <li>• Demonstrate the inspection of frozen fruits and vegetables for ice crystals, freezer burn, and any damage.</li> <li>• Show how to test moisture content in</li> </ul>

<p>and Individually Quick Freezing (IQF) systems.</p>	<p>frozen products to maintain required quality levels.</p> <ul style="list-style-type: none"> <li>• Demonstrate sensory evaluation of thawed samples to check texture, flavor, and appearance after freezing.</li> <li>• Show how to monitor microbial load post-freezing to ensure no contamination during the process.</li> <li>• Demonstrate the process of checking for weight loss due to dehydration during freezing.</li> <li>• Show how to pack frozen products using moisture-proof and air-tight packaging to avoid freezer burn.</li> <li>• Demonstrate the use of vacuum packaging to prevent oxidation and extend the shelf life of frozen products.</li> <li>• Show how to label frozen products with batch numbers, freezing dates, expiry dates, and storage instructions.</li> <li>• Demonstrate secondary packaging techniques for bulk shipments to protect primary packaging during transportation.</li> </ul>
<p><b>Classroom Aids</b></p>	
<p>Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Fruit Washer, Sorting Conveyor, Grading Machines, Peeling Machine, Coring Machine, Pitting Machine, Slicing Machine, Blancher, Anti-Discoloration Treatment Applicator, Sterilizer, Can Seamer, Double Seamer, Heat Processing Unit, Cooling System, Packing Station, Syrup or Brine Dispenser, Vacuum Sealer, Freezing Unit, Moisture Meter, and Protective Gear (such as Gloves, Head Caps, Lab Coats, Safety Goggles, Safety Boots, and Mouth Masks)</p>	

## Module 6: Implement Personal Hygiene and Good Manufacturing Practices

Mapped to FIC/N9906, v1.0

### Terminal Outcomes:

- Discuss the importance of personal hygiene and GMP at the workplace
- Demonstrate the tasks to be performed for ensuring personal hygiene and GMP practices at the workplace.

Duration (in hours): 05:00	Duration (in hours): 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Define hazards and risks.</li> <li>• Discuss the various types of health and safety equipment available in an organisation and the methods for obtaining them.</li> <li>• Discuss the organisational health and safety policies and procedures.</li> <li>• Discuss site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules.</li> <li>• Explain work instructions at different levels of employees inside a food manufacturing site.</li> <li>• Discuss how to conduct timely planning and participation of relevant training and awareness sessions on personal hygiene, GMP and related topics.</li> <li>• Explain the importance of timely medical examination from a prescribed and authorized doctor and to comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.</li> <li>• State how to follow a site relevant documented procedure and area wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site.</li> <li>• List validated Do's &amp; Don'ts inside a food manufacturing firm.</li> <li>• State process flow charts, HACCP summary plan and critical process parameters in each and respective areas of the production line.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the steps to be performed for implementing good manufacturing practices (GMP).</li> <li>• Demonstrate how to follow work instructions at different levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines.</li> <li>• Show how to fill data in daily monitoring checklist related to personal hygiene, food safety and GMP.</li> <li>• Demonstrate the process to follow man and materials movement throughout the production facility, to restrict unwanted hazards to cross contaminate the products which are being manufactured in the facility.</li> <li>• Show how to tag and number all the equipment, machinery, tools, and other processing aids to keep a proper traceability of the product being manufactured and handled at site.</li> <li>• Demonstrate process of record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters etc.</li> </ul>

<ul style="list-style-type: none"> <li>• Explain how to identify the material requirements such as manufacturing equipment's, Utensils and other processing aids, cleaning chemicals, cleaning work instructions in all the relevant areas of manufacturing facility.</li> <li>• Define the Allergens, their risks and the allergen requirements.</li> <li>• State the relevance of guidelines in manufacturing area and how training evaluation will be implemented.</li> <li>• Explain the process of audits and ways to address the aspects of Good Manufacturing Procedures, personal hygiene and food safety.</li> </ul>	
<p><b>Classroom Aids</b></p>	
<p>Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>GMP format and guidelines, allergen manual, personal hygiene guidelines, etc.</p>	

## Module 7: Apply Food Safety Practices at Workplace

*Mapped to FIC/N9906, v1.0*

### Terminal Outcomes:

- List the food safety practices at the workplace and the ways to implement them.
- Demonstrate the steps to be followed to implement food safety procedures effectively.

Duration (in hours): 05:00	Duration (in hours): 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List the various types of health and safety hazards present in the environment.</li> <li>• Discuss the possible causes of risk, hazard or accident at the workplace.</li> <li>• Elucidate the standard practices and precautions used to control and prevent risks, hazards and accidents at the workplace.</li> <li>• Explain requirements to maintain updated facilities, equipment and tool to minimize the risks associated with the products being handled at the site.</li> <li>• State the importance of using protective equipment and clothing for specific tasks and work conditions.</li> <li>• Discuss the role of organisational protocols in preventing accidents and hazards.</li> <li>• Discuss the significance of various types of hazard and safety signs.</li> <li>• Explain FSSAI Schedule IV requirements related to: Pest Control, Cleaning and Sanitation, Utilities, Waste Disposal, Prevention of Cross Contamination, allergen management, corrective action, preventive actions, food operation control etc.</li> <li>• Discuss the relevance of checking critical control points and product parameters.</li> <li>• Explain importance of record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters etc.</li> <li>• Discuss how to report any food safety and GMP issue to supervisor, if any.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to apply appropriate techniques to deal with hazards safely and appropriately.</li> <li>• Demonstrate the steps for checking critical control points and product parameters.</li> <li>• Show how to record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters etc.</li> <li>• Demonstrate appropriate ways to respond to an accident situation or medical emergency promptly and appropriately.</li> <li>• Demonstrate the steps to be followed during emergency and evacuation procedure.</li> </ul>

### Classroom Aids

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

### Tools, Equipment and Other Requirements

Helmet, gloves, rubber mat, ladder, neon tester, leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuff less (without folds) trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors, hand and face shields, machine guards, residual current Devices, shields, dust sheets, respirator.

## Module 8: Employability Skills (30 Hours)

Mapped to DGT/VSQ/N0101, v1.0

Duration: 30:00

### Key Learning Outcomes

#### Introduction to Employability Skills Duration: 1 Hour

After completing this programme, participants will be able to:

1. Discuss the importance of Employability Skills in meeting the job requirements

#### Constitutional values - Citizenship Duration: 1 Hour

2. Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.

3. Show how to practice different environmentally sustainable practices

#### Becoming a Professional in the 21st Century Duration: 1 Hour

4. Discuss 21st-century skills.

5. Display a positive attitude, self-motivation, problem-solving, time management skills and continuous learning mindset in different situations.

#### Basic English Skills Duration: 2 Hours

6. Use appropriate basic English sentences/phrases while speaking

#### Communication Skills Duration: 4 Hours

7. Demonstrate how to communicate in a well-mannered way with others.

8. Demonstrate working with others in a team

#### Diversity & Inclusion Duration: 1 Hour

9. Show how to conduct oneself appropriately with all genders and PwD

10. Discuss the significance of reporting sexual harassment issues in time

#### Financial and Legal Literacy Duration: 4 Hours

11. Discuss the significance of using financial products and services safely and securely.

12. Explain the importance of managing expenses, income, and savings.

13. Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws

#### Essential Digital Skills Duration: 3 Hours

14. Show how to operate digital devices and use the associated applications and features, safely and securely

15. Discuss the significance of using the internet for browsing, and accessing social media platforms, safely and securely

#### Entrepreneurship Duration: 7 Hours

16. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges

**Customer Service Duration: 4 Hours**

17. Differentiate between types of customers

18. Explain the significance of identifying customer needs and addressing them

19. Discuss the significance of maintaining hygiene and dressing appropriately

**Getting ready for Apprenticeship & Jobs Duration: 2 Hours**

20. Create a biodata

21. Use various sources to search and apply for jobs

22. Discuss the significance of dressing up neatly and maintaining hygiene for an interview

23. Discuss how to search and register for apprenticeship opportunities

## Module 9: On-the-Job Training

### Mapped to Preservation Technician-Fruits and Vegetables

<b>Mandatory Duration: 60:00</b>	<b>Recommended Duration: 00:00</b>
<b>Location: On-Site</b>	
<p><b>Terminal Outcomes</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the standard practices to be followed for planning production.</li> <li>• Show how to prepare for the production process by demonstrating the tasks involved.</li> <li>• Demonstrate the process of drying fruits and vegetables and its importance in food preservation.</li> <li>• Demonstrate the procedures for canning fruits and vegetables to ensure their preservation and safety.</li> <li>• Show the specific methods and standards used for freezing fruits and vegetables to maintain quality and prevent spoilage.</li> <li>• Show the importance of personal hygiene and GMP (Good Manufacturing Practices) at the workplace.</li> <li>• Demonstrate the tasks required to ensure personal hygiene and GMP practices at the workplace.</li> <li>• Demonstrate the food safety practices at the workplace and show how to implement them effectively.</li> <li>• Demonstrate the steps to be followed for implementing food safety procedures effectively.</li> </ul>	

## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialisation	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
B.Sc./B.Tech	Food Processing/ Food Technology/ Food Engineering	2	Fruits and Vegetables Processing Industry	1	Training of Preservation Technician-Fruits and Vegetables	
M.Sc./M.Tech	Food Processing/ Food Technology/ Food Engineering	1	Fruits and Vegetables Processing Industry	1	Training of Preservation Technician-Fruits and Vegetables	

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Preservation Technician-Fruits and Vegetables" mapped to QP: "FIC/Q0202, v2.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The 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	
B.Sc./B.Tech	Food Processing/ Food Technology/ Food Engineering	3	Fruits and Vegetables Processing Industry	1	Assessment of Preservation Technician-Fruits and Vegetables	
M.Sc./ M.Tech	Food Processing/ Food Technology/ Food Engineering	2	Fruits and Vegetables Processing Industry	1	Assessment of Preservation Technician-Fruits and Vegetables	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Preservation Technician-Fruits and Vegetables” mapped to QP: “FIC/Q0202, v2.0”. Minimum accepted score is 80%.	Certified for the Job Role: “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, v2.0”, with a minimum score of 80%.

## Assessment Strategy

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

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

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

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

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

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

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets/question 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.
- iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand.

### On the Job:

1. Each module (which covers the job profile of Preservation Technician-Fruits and Vegetables) will be assessed separately.

2. The candidate must score 50% in each module to successfully complete the OJT.

3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:

- Videos of Trainees during OJT
- Answer Sheets of Question Banks
- Assessing the Logbook entries of Trainees at Employer location
- Employer Performance Feedback.

4. Assessment of each Module will ensure that the candidate is able to:

- Preparing for production.
- Carrying out the preservation of fruits and vegetables.
- Applying food safety guidelines in Food Processing.

## References

### Glossary

Term	Description
<b>Declarative Knowledge</b>	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.
<b>Key Learning Outcome</b>	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).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do it upon the completion of the training.
<b>Terminal Outcome</b>	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
NCVET	National Council for Vocational Education and Training
FICSI	Food Industry Capacity & Skill Initiative
QP	Qualification Pack
MC	Model Curriculum
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
NCO	National Classification of Occupations
ES	Employability Skills
HACCP	Hazard Analysis and Critical Control Points
FSSAI	Food Safety and Standards Authority of India
GMPs	Good Manufacturing Practices
PPE	Personal Protective Equipment
CIP	Clean-in-Place
COP	Clean-Out-of-Place
IQF	Individually Quick Freezing