





# **Model Curriculum**

**QP Name: Assistant Pickle and Paste Making Technician (Fruits and Vegetables)** 

QP Code: FIC/Q0203

QP Version: 2.0

**NSQF Level: 3** 

**Model Curriculum Version: 2.0** 

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# **Training Parameters**

Sector	Food Processing		
Sub-Sector	Fruits and Vegetables		
Occupation	Processing - Fruits & Vegetables		
Country	India		
NSQF Level	3		
•	NCO 2015 /7514 1000		
Aligned to NCO/ISCO/ISIC Code  Minimum Educational Qualification and	NCO-2015/7514.1000		
•	1. 10th grade pass OR		
Experience	2. 8th-grade pass with 3 Years of experience relevant experience OR 3. Previous relevant Qualification of NSQF Level (2) with 3 Years of experience relevant experience OR 4.Previous relevant Qualification of NSQF Level (2.5) with 1.5 years of experience relevant experience		
Pre-Requisite License or Training	NA		
Minimum Job Entry Age	16 years		
Last Reviewed On	17/12/2024		
Next Review Date	16/12/2027		
NSQC Approval Date	17/12/2024		
QP Version	2.0		
Model Curriculum Creation Date	10/06/2024		
Model Curriculum Valid Up to Date	17/12/2024		
Model Curriculum Version	2.0		
Minimum Duration of the Course	360 hours		
Maximum Duration of the Course	360 hours		





# **Program Overview**

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

#### **Training Outcomes**

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

- Prepare pickles, murabba and pastes
- Use various techniques for production of pickle, murraba and paste
- Use specialized equipment and tools to produce various types of pickles, murabba and pastes
- Perform sampling and evaluate the finished product on different parameters.
- Adhere to necessary health and safety practices to ensure food safety and personal hygiene
- Follow emergency procedures and infection control practices effectively
- Work with various organisational departments effectively
- Use resources at the workplace optimally

#### **Compulsory Modules**

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FIC/N9026: Prepare for production NOS Version No.:1.0 NSQF Level: 3	20:00 Hours	40:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 1: Introduction to food processing sector and the job of 'Assistant Pickle and Paste making Technician (F&V)'	05:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	05:00 Hours
Module 2: Prepare for production	15:00 Hours	40:00 Hours	00:00 Hours	00:00 Hours	55:00 Hours
FIC/N0204: Carry out production of various types of pickles and pastes & Murabba NOS Version No.: 1.0 NSQF Level: 3	60:00 Hours	120:00 Hours	00:00 Hours	00:00 Hours	180:00 Hours
Module 3: Carry out production of various types of pickles and pastes & Murabba	60:00 Hours	120:00 Hours	00:00 Hours	00:00 Hours	180:00 Hours
FIC/N9906: Apply food safety guidelines in Food Processing NOS Version No.: 2.0	10:00 Hours	20:00 Hours	00:00 Hours	00:00 Hours	30:00 Hours





NSQF Level: 3					
Module 4: Practice personal hygiene and follow Good Manufacturing Practices at workplace	05:00	10:00	00:00	00:00	15:00
Module 5: Apply food safety practices at workplace	05:00	10:00	00:00	00:00	15:00
DGT/VSQ/N0101 Employability Skills NOS Version No.: 1.0 NSQF Level: 2	30:00 Hours	00:00 Hours	00:00Hours	00:00Hours	30:00 Hours
Module6: Employability Skills	30:00 Hours	00:00 Hours	00:00Hours	00:00Hours	30:00 Hours
<b>Total Duration</b>	120:00 Hours	180:00 Hours	60:00 Hours	00:00 Hours	360:00 Hours





# **Module Details**

Module 1: Introduction to food processing sector and the job of 'Assistant Pickle and Paste Making Technician (F&V)'

Mapped to FIC/N9026 v 1.0

#### **Terminal Outcomes:**

- Describe the food processing sector in brief
- Discuss the career opportunities available within the food processing sector

Duration: 05:00	<b>Duration:</b> 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
• Discuss the size and scope of the food processing	
industry in brief.	
• Discuss the future trends and career growth	
opportunities available for Pickle and Paste	
Making Technician in the food processing	
industry.	
• Summarise the key roles and responsibilities of	
'Assistant Pickle and Paste Making Technician'.	
• List the various terminologies used in the process	
of making pickle and paste.	
• Discuss the various organisational	
procedures and processes for making pickles	
and pastes.	
• Discuss the standards to be followed for	
handling hazards and ensuring a clean work	
area.	
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presen	tation and software, Facilitator's Guide, Participant's
Handbook.	
Tools Equipment and Other Paguirements	
Tools, Equipment and Other Requirements Nil	





# Module 2: Prepare for production *Mapped to FIC/N9026 v 1.0*

#### **Terminal Outcomes:**

- Discuss the standard practices to be followed for production
- Demonstrate the tasks to be performed at the workplace for planning the production

uration: 15:00 neory – Key Learning Outcomes	Duration: 40:00  Practical – Key Learning Outcomes		
lediy hey Leaning Outcomes	Tractical – Key Learning Outcomes		
Elucidate production planning process. Discuss analysis and interpretation of various process charts, product flow charts, etc. Explain the resource management, Vendor and supplier Approvals and timely audits". List down equipment type and its use. Explain the capacity utilization calculation. Discuss the organizational policies and SOP on cleaning and housekeeping List down the basic concept of food safety and hygiene. Describe the operating procedure and general maintenance of food production machineries. State waste management procedures. List down the methods to inspect tools, equipment and machinery. Discuss the procedure to allot work or responsibility to the team.	<ul> <li>Apply work requirements by obtaining instructions from the supervisor.</li> <li>Instructions: process chart, product flow chart, formulation, chart, etc.</li> <li>Prepare, plan and prioritize tasks as per work schedule     Tasks: inspect, clean, maintain, verify the area and tools, etc.</li> <li>Calculate the manpower and material requirements as per work requirement Material: raw materials and packaging materials.</li> <li>Show the required quantity of raw materials, packaging materials, equipment, and manpower for production.</li> <li>Demonstrate capacity utilization of machinery with respect to the processing time, production order, and batch size for each product.</li> <li>Perform cleaning and maintain the work area as per organizational procedures.</li> <li>Perform cleaning and maintain the machines and tools and sanitize them as per the organization's specifications and standards.</li> <li>Show disposal of the waste material at designated place safely.</li> <li>Display the tools, equipment, and machinery to ascertain suitability for use.</li> <li>Conduct role play to report information such as faulty tools and equipment to the</li> </ul>		





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

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

Process related documents, list of raw materials, tools, equipment and machinery, organizational documents, and logbook.





# Module 3: Carry out production of various types of pickles and pastes & Murabba *Mapped to FIC/N0204 v 1.0*

#### **Terminal Outcomes:**

paste using essential machines.

- Discuss the process for preparing different types of pickles, pastes and murabba from fruits and vegetables
- Demonstrate the standard work practices followed to produce various types of pickles and pastes

#### Duration: 60:00 **Duration**: 120:00 Theory – Key Learning Outcomes Practical – Key Learning Outcomes Recall the procedure of sampling to test the Show how to check the quality and level of water quality and verifying the water level water before washing the fruits and • Discuss the different types, roles and benefits of vegetables automated machinery used in pickle and paste Practice setting up and operating filling making, including filling machines, sealing machines, sealing equipment, labeling equipment, labeling machines, and conveyor machines, and conveyor systems. systems. Practice identifying and handling the key components, sensors, actuators, and control • Explain the basic principles of operation for systems in automated machinery. each type of automated machine used in pickle Show how to install, calibrate, and maintain and paste making. key components, sensors, actuators, and • Describe the operation of a peeling machine control systems in automated machinery. Explain the mechanism of peeling and slicing Implement standard operating procedures fruits and vegetables. for loading ingredients, initiating the production process, and monitoring machine Explain the procedures for starting, stopping, performance in a controlled environment. adjusting settings on automated Demonstrate the standard procedure for machinery. Describe the standard operating procedures for rinsing and drying the fruits and vegetables loading ingredients, initiating the production Show how to use a peeling machine. process, and monitoring machine performance. Illustrate the process of peeling and slicing • Explain how to inspect the vegetables and fruits using appropriate machines. to identify spoilage Exemplify the steps to prepare the brine Elucidate the need of brine solution and solution and fermentation process fermentation process Demonstrate the process of preparing pickle, State the importance and use of vinegar, brine murabba and paste using necessary machines. and oil solution for pickle making Demonstrate the correct procedures for Discuss the importance of adhering to FSSAI adding preservatives, salts, and spices, and for limits on Class II preservatives, the health achieving the desired consistency in pickles implications of these chemicals, and the and pastes. necessity for regular testing and proper labeling Demonstrate the process of preparing to ensure consumer safety. Fermented Pickle. Describe the method of preparing different Demonstrate the process of preparing Mix types of pickle using essential Machines and Pickle. process. Demonstrate the process of preparing Describe the method of preparing different

murabba.





- Describe the method of preparing different Murabba using essential machines.
- Explain the packaging and postproduction activities.
- Describe the principles and procedures for CIP and COP in the context of pickle and paste production.
- Describe the standard practices to replace defective material and to follow the process of disposing them safely.
- Discuss how to identify and troubleshoot common issues and malfunctions in automated machinery, such as jammed conveyors, sensor failures, or equipment breakdowns.
- Discuss the importance of timely repairs to prevent major breakdowns and production delays.
- Discuss the impact of various kinds of hazardous material on the production process

- Demonstrate how to operate mills and pulpers for creating coarse and fine pastes from cured vegetables.
- Demonstrate how to analyse the quality of the finished product as per the standards of the organization
- Demonstrate the various steps that are performed for packaging of the processed food
- Illustrate the techniques for cleaning the machineries using recommended sanitizers following industry procedures such as cleaning clean-in-place, cleaning out of place
- Apply standard practices to replace defective material and to follow the process of disposing them safely
- Show how to dispose unwanted (such as broken, chipped or cracked equipment, spoiled material, etc.) and hazardous materials safely as per standard work practices.
- Demonstrate practical skills in identifying and troubleshooting common issues and malfunctions in automated machinery.
- Practice replacing worn-out parts, recalibrating sensors, and making necessary adjustments to maintain optimal machine performance.

#### **Classroom Aids:**

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

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

Water tank, spraying system, drying line conveyor, sorting line conveyor, peeling machine, steam jacketed kettle, salinometer, crusher/mill, pulper, grinding machine, pickle making machine, container, filling machine, batch mixing cooker, raw ingredients, refractometer, storage tank, packaging machines, sterilized packing material, cartons, protective gloves, head caps, aprons, safety goggles, safety boots, mouth masks, various types of sanitisers and disinfectants, trash bins for waste material disposal, equipment for cleaning, procedural manual for reference





# Module 4: Practice personal hygiene and follow Good Manufacturing Practices at workplace $Mapped\ to\ FIC/N9906\ v\ 1.0$

#### **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

<b>Duration:</b> <i>05:00</i>	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Define hazards and risks</li> <li>Recall 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 levels of employee inside a food manufacturing site</li> <li>Ensure timed 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> <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> </ul>	<ul> <li>Demonstrate the steps to be performed for implementing good manufacturing practices (GMP)</li> <li>Demonstrate how to follow work instructions at levels of employee 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>Illustrate 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>





- State the relevance of guidelines in manufacturing area and how training evaluation will be implemented
- Explain the process of audits and ways to address the aspects of Good Manufacturing Procedures, personal hygiene and food safety

#### **Classroom Aids:**

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

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

GMP format and guidelines, allergen manual, personal hygiene guidelines, etc.





### Module 5: Apply food safety practices at workplace Mapped to FIC/N9906 v1.0

#### **Terminal Outcomes:**

**Duration:** *05:00* 

- 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: 10:00

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

#### **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 6: 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





# **Annexure**

### **Trainer Requirements**

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
B.Sc or graduate/B.Tech/BE	Food technology or food engineering	3	Food processing	1	Food processing	
M.Sc/M.Tech/ME	Food technology or food engineering	2	Food processing	1	Food processing	
Diploma /certificate course	(Food Technology / Food Engineering /packaging/Ho me science, or allied sector	4	Food processing	1	Food processing	

Trainer Certification				
Domain Certification	Platform Certification			
Certified for Job Role: "Assistant Pickle and Paste making Technician (F&V)" mapped to QP: "FIC/Q0203, v2.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601". Minimum accepted score as per MEPSC guidelines is 80%.			





### **Assessor Requirements**

Assessor Prerequisites						
Minimum Educational	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
Qualification		Years	Specialization	Years	Specialization	
M.Sc/M.Tech/ME	Food technology or food engineering	2	Food processing	1	Food processing	
B.Sc or graduate/B.Tech/ BE	Food technology/ Home Science	3	Food processing	2	Food processing	
Diploma	Hotel management/ Food Science/ Home Science	4	Food processing	2	Food processing	

Assessor Certification				
Domain Certification	Platform Certification			
Certified for Job Role: "Assistant Pickle and Paste making Technician (F&V)" mapped to QP: "FIC/Q0203, v2.0". Minimum accepted score is 80%.	"Trainer", "MEP/Q2601, V1.0" with a scoring of minimum 80%			





#### **Assessment Strategy**

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

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

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

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

A. Mid-term assessment

B. Term / Final Assessment

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

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

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

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





### References

## **Glossary**

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





### **Acronyms and Abbreviations**

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
FIFO	First In First Out
FEFO	First Expire First Out
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices
CPR	Cardiopulmonary Resuscitation