Model Curriculum

Standalone NOS: Basics of Pickle Processing & Packaging
NOS Code: FIC/N0214
Version: 1.0
NSQF Level: 3
Model Curriculum Version: 1.0

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

Table of Contents

Training Parameters

Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Processing - Fruits & Vegetables
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7514.1000
Minimum Educational Qualification and Experience	1. 10th Grade pass OR 2. 8th Grade pass with 3 years of relevant experience in Food Processing OR 3. Previous relevant Qualification of NSQF Level 2.5 with 1.5 years of experience in Food Processing OR 4. Previous relevant Qualification of NSQF Level 2 with 3 years of experience in Food Processing
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 years
Last Reviewed On	18/02/2025
Next Review Date	17/02/2028
NSQC Approval Date	18/02/2025
NOS Version	1.0
Model Curriculum Creation Date	10/07/2024
Model Curriculum Valid Up to Date	17/02/2028
Model Curriculum Version	1.0
Minimum Duration of the Course	90 hours
Maximum Duration of the Course	90 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:

- Use various techniques for production of mix and instant pickle
- Use specialized equipment and tools to produce mix and instant pickles
- 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/N0214: Processing of mix and instant pickles NOS Version No.:1.0 NOS Level: 3	**30:00 Hours**	**60:00 Hours**	**00:00 Hours**	**00:00 Hours**	**90:00 Hours**
Module 1: Processing of mix and instant pickles	20:00 Hours	40:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 2: Post-production activities	05:00	10:00	00:00	00:00	15:00
Module 3: Food Safety Practices	03:00	10:00	00:00	00:00	13:00
Module 4: Basics of Entrepreneurial skill	02:00	00:00	00:00	00:00	02:00
Total Duration	**30:00 Hours**	**60:00 Hours**	**00:00 Hours**	**00:00 Hours**	**90:00 Hours**

Module Detail

Module 1: Processing of mix and instant pickles

Mapped to FIC/N0214 v 1.0

Terminal Outcomes:

- Discuss the process for preparing mix and instant pickles
- Demonstrate the standard work practices followed to produce instant and mix pickles

Duration: 20:00	*Duration: 40:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Recall the procedure of sampling to test the water quality and verifying the water level • Discuss the different types, roles and benefits of automated machinery used in pickle making, including filling machines, sealing equipment, labeling machines, and conveyor systems. • Explain the basic principles of operation for each type of automated machine used in pickle making. • Describe the operation of a peeling machine • Explain the mechanism of peeling and slicing fruits and vegetables. • Explain the procedures for starting, stopping, and adjusting settings on automated machinery. • Describe the standard operating procedures for loading ingredients, initiating the production process, and monitoring machine performance. • Explain how to inspect the vegetables and fruits to identify spoilage • Elucidate the need of brine solution and fermentation process • State the importance and use of vinegar, brine and oil solution for pickle making • Discuss the importance of adhering to FSSAI limits on Class II preservatives, the	• Show how to check the quality and level of water before washing the fruits and vegetables • Practice setting up and operating filling machines, sealing equipment, labeling machines, and conveyor systems • Practice identifying and handling the key components, sensors, actuators, and control systems in automated machinery. • Show how to install, calibrate, and maintain key components, sensors, actuators, and control systems in automated machinery • Implement standard operating procedures for loading ingredients, initiating the production process, and monitoring machine performance in a controlled environment • Demonstrate the standard procedure for rinsing and drying the fruits and vegetables • Show how to use a peeling machine. • Illustrate the process of peeling and slicing using appropriate machines • Exemplify the steps to prepare the brine solution and fermentation process • Demonstrate how to operate mills and pulpers for creating coarse and fine pastes from cured vegetables.

health implications of these chemicals, and the necessity for regular testing and proper labeling to ensure consumer safety. • 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 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 • 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 2: Post-production activities

Mapped to FIC/N0214 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

Duration: *05:00*	**Duration:** *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Define hazards and risks • Recall the various types of health and safety equipment available in an organisation and the methods for obtaining them • Discuss the organisational health and safety policies and procedures • Discuss site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules • Explain work instructions at levels of employee inside a food manufacturing site • Ensure timed planning and participation of relevant training and awareness sessions on personal hygiene, GMP and related topics • 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 • 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 • List validated Do's & Don'ts inside a food manufacturing firm • State process flow charts, HACCP summary plan and critical process	• Demonstrate the steps to be performed for implementing good manufacturing practices (GMP) • 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 • Show how to fill data in daily monitoring checklist related to personal hygiene, food safety and GMP • 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 • 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 • Demonstrate process of record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters etc.

parameters in each and respective areas of the production line • 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 • Define the Allergens, their risks and the allergen requirements • 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 3: Food Safety Practices
Mapped to FIC/N0214 v 1.0

Terminal Outcomes:

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

Duration: *03:00*	**Duration:** *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Define hazards and risks • Recall the various types of health and safety equipment available in an organisation and the methods for obtaining them • Discuss the organisational health and safety policies and procedures • Discuss site-relevant documented procedures for Personal Hygiene and Visitor/ Contractor rules • Ensure timed planning and participation in relevant training and awareness sessions on personal hygiene, GMP and related topics • 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 • 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 • List validated Do's & Don'ts inside a food manufacturing firm • State process flow charts, HACCP summary plan and critical process parameters in each and respective areas of the production line • Explain how to identify the material requirements such as manufacturing	• Demonstrate the steps to be performed for implementing good manufacturing practices (GMP) • 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 • Show how to fill data in daily monitoring checklist related to personal hygiene, food safety and GMP • 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 • 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 • Demonstrate process of record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters etc.

equipment's, Utensils and other processing aids, cleaning chemicals, cleaning work instructions in all the relevant areas of manufacturing facility • Define the Allergens, their risks and the allergen requirements • 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 4: Basics of Entrepreneurial Skills

Mapped to FIC/N0214 v 1.0

Terminal Outcomes:

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

Duration: *02:00*	
Theory – Key Learning Outcomes	
• Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society, etc. that are required to be followed to become a responsible citizen. • Discuss 21st-century skills. • Display a positive attitude, self-motivation, problem-solving, time management skills, and continuous learning mindset in different situations. • Discuss the significance of reporting sexual harassment issues in time • Discuss the significance of using financial products and services safely and securely. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws • Explain the importance of managing expenses, income, and savings. • Discuss the significance of using the internet for browsing, and accessing social media platforms, safely and securely • Discuss the need for identifying opportunities for potential business, sources for arranging money, and	

potential legal and financial challenges • Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities	
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Computer/laptop.	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
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/Home science, or allied sector	4	Food processing	1	Food processing	

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for NOS: "Basics of Pickle Processing and Packaging" mapped to QP: "FIC/N0214, v1.0". The minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601". 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***	
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 NOS: “Basics of Pickle Processing and Packaging” mapped to QP: “FIC/N0214, v1.0”. The 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) 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 the preparation of question banks/paper sets for each of the QPs. Each of these papers sets / question banks so created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially about the practical test and the defined tolerances, finish, accuracy, etc.

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

i. Written Test: This will comprise of (i) True / False Statements, (ii) Multiple Choice Questions (iii) Matching Type Questions. An online system for this will be preferred.

ii. Practical Test: This will comprise a test job to be prepared as per the project briefing, following appropriate working steps, using necessary tools, equipment, and instruments. Through observation, it will be possible to ascertain a candidate's aptitude, attention to detail, quality consciousness, etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of their skill achievements.

iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioral aspects regarding 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 **upon the completion of the training**.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

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