Model Curriculum

QP Name: Fish and Sea Food Processor

QP Code: FIC/Q4002

QP Version: 1.0

NSQF Level: 2

Model Curriculum Version: 1.0

Table of Contents

Training Parameters

Sector	Food Processing
Sub-Sector	Generic
Occupation	Processing-fish and seafood
Country	India
NSQF Level	2
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

Minimum Educational Qualification and Experience	1. 9th Grade pass
	          OR
	2. 8th Grade pass and pursuing continuous schooling
	          OR
	3. Grade 5 pass with 4 year relevant experience
	          OR
	4. Ability to read and write with 4 year relevant experience

Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 years
Last Reviewed On	15-02-2023
Next Review Date	15-08-2023
NSQC Approval Date	15-02-2023
QP Version	1.0
Model Curriculum Creation Date	12-01-2023
Model Curriculum Valid Up to Date	15-08-2023
Model Curriculum Version	1.0
Minimum Duration of the Course	210 Hours
Maximum Duration of the Course	210 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:

- Process all types of fish and seafood manually or mechanically to achieve the desired quality as set by the organization
- Operate the machineries/equipment for processing fish and seafood
- Plan, organize, and prioritize production as per schedule
- Follow and maintain food safety and hygiene in the work environment

Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
FIC/N9026: Prepare for production NOS Version No. 1 NSQF Level 3	**20:00 Hours**	**40:00 Hours**	**00:00Hours**	**00:00Hours**	**60:00 Hours**
Module1: Introduction to Training Program and Overview of Food Processing Industry	02:00 Hours	00:00 Hours	00:00Hours	00:00Hours	02:00 Hours
Module 2: Prepare for production	18:00 Hours	40:00 Hours	00:00Hours	00:00Hours	58:00 Hours
FIC/N4003: Execution of fish and sea food processing NOS Version No.: 1.0 NSQF Level: 4	**30:00 Hours**	**60:00 Hours**	**00:00 Hours**	**00:00 Hours**	**90:00 Hours**
Module 3: Execution of fish and sea food processing	30:00 Hours	60:00 Hours	00:00 Hours	00:00 Hours	90:00 Hours
FIC/N9901: Implement health and safety practices at the workplace NOS Version No. 1.0	**10:00 Hours**	**20:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**

NSQF Level 3					
Module 4: Ensure food safety and personal hygiene	10:00 Hours	20:00 Hours	00:00Hours	00:00Hours	30:00 Hours
DGT/VSQ/N0101 Employability Skills NOS Version No.: 1.0 NSQF Level: 2	**12:00 Hours**	**18:00 Hours**	**00:00Hours**	**00:00Hours**	**30:00 Hours**
Module 5: Employability Skills	12:00 Hours	18:00 Hours	00:00Hours	00:00Hours	30:00 Hours
Total Duration	**72:00 Hours**	**138:00 Hours**	**00:00Hours**	**00:00Hours**	**210:00 Hours**

Module Details

Module1: Introduction to Training Program and Overview of Food Processing Industry
Mapped to FIC/N9026 v1.0

Terminal Outcomes:

- Discuss in brief about food processing sector and its sub-sector
- Discuss about fish and seafood sector and its current and future market trends
- Discuss the roles & opportunities available in food processing industry

Duration: _02:00_	**Duration**: _00:00_
Theory–Key Learning Outcomes	**Practical–Key Learning Outcomes**
- Describe food processing and its sub-sectors - Discuss the future trends and career growth opportunities available in the food processing industry. - Summarise the key roles and responsibilities of a Fish and Seafood Processor. - Discuss the role of organisational policies and procedures in the job.	
Classroom Aids:	
Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Nil	

Module 2: Prepare for production
Mapped to FIC/N9026 v1.0

Terminal Outcomes:

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

Duration: *18:00*	Duration: *40:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Elucidate production planning process. - List the manpower and material requirements as per work requirement. - Discuss the importance of various process charts, product flow charts, resource management process, etc. - List the priority of tasks as per work schedule. - Recall the steps to plan capacity utilization of machinery with respect to the processing time, production order and batch size for each product. - List the tools, equipment and production materials required. - Recall various steps required to organize production materials appropriately.	- Demonstrate the procedure for obtaining work requirements from supervisors. - Prepare samples to plan and prioritize work schedules - Demonstrate how to estimate the resources as per the requirement (raw materials, packaging materials, machineries, and manpower) - Demonstrate how to dispose of the waste material at the designated place, safely. - Report information such as faulty tools and equipment to the concerned authority. - Demonstrate how to organize production materials appropriately.
Classroom Aids:	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
Tools, Equipment, and Other Requirements	
broom, brush, duster, vacuum cleaner, scraper, polisher, personnel protective equipment (PPE), hair net, gloves, mask, safety shoes, head cover, various cleaning agents, sample procedures, policies, equipment, chemicals, etc.	

Module 3: Execution of fish and sea food processing
Mapped to FIC/N4003, v1.0

Terminal Outcomes:

- Discuss the stages involved in execution of fish and sea food processing

Duration: *30:00*	Duration: *60:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the process of receiving and handling raw materials. - Explain the process of grading and sorting varieties of fish and seafood. - Describe the methods of preprocessing fish and seafood - Explain the methods of processing fish and seafood	• Demonstrate the process of cleaning the work area and machineries after production • Demonstrate the process of sorting and grading of fish and seafood based on various factors • Demonstrate the pre-processing methods of fish and seafood • Demonstrate various methods of Fish & seafood processing such as salting, smoking, canning, packaging, fermentation etc.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Filtering machine, Scaling machine, Shelling machine, Grounding machine, Opening machine, Thermoformers, Moulders, Heat sealers, Can making equipment, Can closers/ sealers, Seam testers, Fillers of all type, Cutting / slitting / trimming equipment, Typing / sieving/ stappling equipment, Closing / sealing equipment, Form / fill/ seal equip, Cappers/ crumpers/ hooders, Wrappers, Cartoners, Multipackers, Bundlers, Shrink wrappers and tunnels, Labellers, Coding equipments, Check weighers, Metal detection equipment, Level checking equipment, Code/ lable inspecting equipment, Printing equipment, Palletisers, Bottle spotters, Aligners, Container	

Module 4: Ensure food safety and personal hygiene
Mapped to FIC/N9901 v 1.0

Terminal Outcomes:

- Explain the ways to ensure food safety and personal hygiene at the workplace
- Demonstrate the steps to be followed for implementing good hygiene and manufacturing practices

Duration: *10:00*	Duration: *20:00*
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 relevant health and safety standards to be followed in the job as listed in 'The Food Safety and Standards Act, 2006'. - Explain the importance of wearing appropriate personal protective equipment (such as eye protection, hard hats, gloves apron, rubber boots, etc.) and ensuring personal hygiene at the workplace. - Elucidate the ways to prevent product contamination and cross contamination at the workplace. - State the importance of storing food at specified temperature. - Discuss the importance of sanitising self and the work area safely and appropriately.	- Employ appropriate techniques to prevent product contamination and cross contamination. - Demonstrate the steps to be performed for implementing good manufacturing practices(GMP) in a retail environment. - Apply suitable methods for disinfecting the work area and equipment thoroughly. - Demonstrate how to wash hands and use alcohol-based sanitisers appropriately. - Show how to wear personal protective equipment such as gloves, hairnets, masks, ear plugs, goggles, shoes etc. properly ensuring adequate protection. - Prepare a sample report consisting of information such as illness to self and others as per organisational practice. - Roleplay a situation on how to communicate with the supervisor for reporting illness of self and others.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
Tools, Equipment and Other Requirements	
Gloves, hair net, shoe cover, soap dispenser, hand sanitizer, ear plugs, masks, aprons/lab coats eye protection, hard hats, gloves, rubber boots, etc.	

Module 5: Employability skills
Mapped to DGT/VSQ/N0101, v 1.0

Terminal Outcomes:

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

Duration: *12:00*	Duration: *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Outline the importance of Employability Skills for the current job market and future of work. - List different learning and employability related GOI and private portals and their usage. - Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen. - Discuss 21st century skills. - Highlight the importance of practicing 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life. - Identify well-defined short- and long-term goals. - Explain the importance of communication etiquette including active listening for effective communication. - Discuss the significance of escalating sexual harassment issues as per POSH act. - Discuss various financial institutions, products, and services.	- Research and prepare a note on different industries, trends, required skills and the available opportunities. - Demonstrate how to practice different environmentally sustainable practices. - Create a pathway for adopting a continuous learning mindset for personal and professional development. - Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone. - Read and understand text written in basic English. - Write a short note/paragraph / letter/e -mail using correct basic English. - Create a career development plan. - Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette. - Role play a situation on how to work collaboratively with others in a team. - Demonstrate how to behave, communicate, and conduct appropriately with all genders and PwD. - Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement. - Calculate income and expenditure for budgeting - Demonstrate how to operate digital devices and use the associated applications and features, safely and securely

- Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deduction.
- Discuss the legal rights, laws, and aids.
- Describe the role of digital technology in day-to-day life and the workplace.
- Discuss the significance of displaying responsible online behavior while using various social media platforms.
- Explain the types of entrepreneurship and enterprises.
- Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan.
- Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement.
- Discuss various tools used to collect customer feedback.
- Discuss the significance of maintaining hygiene and dressing appropriately.
- Discuss the significance of maintaining hygiene and dressing appropriately for an interview.
- List the steps for searching and registering for apprenticeship opportunities.
- 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

- Demonstrate how to connect devices securely to internet using different means
- Create an e-mail id and follow e-mail etiquette to exchange e-mails.
- Show how to create documents, spreadsheets and presentations using appropriate applications.
- Create a sample business plan, for the selected business opportunity.
- Demonstrate how to identify customer needs and respond to them in a professional manner.
- Draft a professional Curriculum Vitae (CV).
- Use various offline and online job search sources to find and apply for jobs.
- Role play a mock interview.

Classroom Aids:

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

Tools, Equipment and Other Requirements

N/A

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 /Home science, or allied sector	4	Food processing	1	Food processing	

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Fish and Sea Food Processor" mapped to QP: "FIC/Q4002, v1.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601". Minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

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

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "Fish and Sea Food Processor" mapped to QP: "FIC/ Q4002, v1.0". Minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701". Minimum accepted score as per MEPSC guidelines is 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 behavioural aspects as regards the job role and the specific task at hand.

Glossary

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

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
HACCP	Hazard Analysis and Critical Control Points
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices