



Model Curriculum

QP Name: Concepts of Food Safety in Food Processing Unit

NOS Code: FIC/N7632

Version: 1.0

NSQF Level: 4.0

Model Curriculum Version: 1.0

Food Industry Capacity & Skill Initiative ||
Shriram Bharatiya Kala Kendra, 3rd floor, 1, Copernicus Marg, Mandi House, New Delhi,
Delhi 110001 || Email: admin@ficsi.in



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Training Parameters

Sector	Food Processing
Sub-Sector	Multi-Sectorial
Occupation	Quality Analysis/Assurance
Country	India
NSQF Level	4.0
Aligned to NCO/ISCO/ISIC Code	NCO-2015/1213.0102
Minimum Educational Qualification and Experience	<p>12th Grade pass or equivalent</p> <p>OR</p> <p>10th Grade pass with 3 years of experience in food processing industry</p> <p>OR</p> <p>Previous relevant Qualification of NSQF Level 3.0 with 3 years of experience in food processing industry</p> <p>OR</p> <p>Previous relevant qualification of NSQF Level 3.5 with 1.5 years of experience in food processing industry</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	NA
Last Reviewed On	08-05-2025
Next Review Date	07-05-2028
NSQC Approval Date	08-05-2025
QP Version	1.0
Model Curriculum Creation Date	16-03-2025
Model Curriculum Valid Up to Date	08-05-2028
Model Curriculum Version	1.0
Minimum Duration of the Course	60 Hours
Maximum Duration of the Course	60 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 the food safety practices in a food processing facility.

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)
FIC/N7632: Concepts of Food Safety in Food Processing Unit NOS Version No.: 1.0 NSQF Level: 4.5	20:00	40:00	00:00	00:00	60:00
Module 1: Introduction to the Food Processing Sector and Concepts of Food Safety in Food Processing Unit	02:00	00:00	00:00	00:00	02:00
Module 2: Hazard Identification and Risk Assessment	02:00	06:00	00:00	00:00	08:00
Module 3: Food Safety Training and Policy Management	07:00	14:00	00:00	00:00	21:00
Module 4: Food Testing and Traceability Systems	09:00	20:00	00:00	00:00	29:00
Total Duration	20:00	40:00	00:00	00:00	60:00



Module Details

Module 1: Introduction to the Food Processing Sector and Concepts of Food Safety in Food Processing Unit

Mapped to FIC/N7632, v1.0

Terminal Outcomes:

- Explain the importance of Food Processing Industry.
- Discuss the requirements of a Concepts of Food Safety in Food Processing Unit.

Duration (in hours): 02:00	Duration (in hours): 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none">• Define food processing.• Describe the various sub-sectors of food processing industry.• Discuss the scope of employment in the food processing industry.• Explain the importance of implementing food safety in food processing facilities.	
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Nil	



Module 2: Hazard Identification and Risk Assessment

Mapped to FIC/N7632, v1.0

Terminal Outcomes:

- Demonstrate the ability to identify and manage food safety hazards through comprehensive risk assessments.

Duration (in hours): 02:00	Duration (in hours): 06:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none">• Explain the food safety fundamentals, including the process of hazard identification and risk assessment.• Describe the biological, chemical, and physical hazards associated with food processing and their potential risks.• Discuss the applicable food safety regulations and standards, such as ISO 22000, HACCP, and HARPC, and their importance in food safety.• Elucidate the process of designing, implementing, and maintaining Food Safety Management Systems (FSMS) to ensure compliance with regulations.• Determine the steps involved in conducting hazard analysis and identifying critical control points in food processing.	<ul style="list-style-type: none">• Demonstrate how to develop a food safety team to oversee safety protocols and ensure compliance.• Show how to create the process flow for identifying and analyzing hazards associated with food products.• Demonstrate how to identify potential hazards based on the process flow, including biological, chemical, and physical hazards.• Show how to evaluate the potential impact of each hazard on food safety.• Demonstrate how to conduct risk assessments to identify and mitigate potential hazards in food production.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Thermometers, pH Meter, Microbiological Testing Kit, Water Activity Meters, Inspection Kit	

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Module 3: Food Safety Training and Policy Management

Mapped FIC/N7632, v1.0

Terminal Outcomes:

- Describe the development and implementation of food safety policies and procedures.
- Demonstrate effective food safety training and accurate documentation of procedures and practices.
- Explain the process of ensuring food safety compliance through rigorous monitoring and adherence to established processes.

Duration (in hours): 07:00	Duration (in hours): 14:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the process of developing, implementing, and monitoring HACCP plans to ensure food safety. • Explain the difference between Pre-requisite Programs (PRPs), Operational Pre-requisite Programs (OPRPs), and Critical Control Points (CCPs) in a food safety management system. • Discuss the appropriate prevention measures specific to food processing environments to minimize contamination risks. • Elucidate the impact of processing techniques and equipment on food safety and how they influence product quality. • Explain the application of quality management principles in food safety to ensure compliance and product consistency. • Determine the FSSAI-prescribed manufacturing requirements for food product manufacturers and their role in maintaining safety standards. • Describe the appropriate sanitation practices and disinfection methods required to maintain a hygienic food processing environment. • Explain the personal hygiene requirements for food handlers and their importance in preventing food contamination. • Elucidate the different sources of food contamination, foodborne pathogens, and factors that promote microbial growth. 	<ul style="list-style-type: none"> • Demonstrate how to set clear, measurable objectives for food safety within a production environment. • Show how to develop a food safety policy outlining your commitment to maintaining high safety standards. • Demonstrate how to develop a pest management system to prevent, control, and eliminate pests in food facilities. • Show how to implement procedures for hazard control, including setting critical control points (CCPs), monitoring, and corrective actions. • Demonstrate how to set the critical control point limits to ensure food safety. • Show how to implement appropriate control measures for identified hazards and CCPs. • Demonstrate how to establish and follow Standard Operating Procedures (SOPs) for cleaning and sanitation in food production. • Demonstrate how to provide training to personnel on food safety practices and procedures, including Good Hygiene Practices (GHP) and Good Manufacturing Practices (GMP). • Show how to ensure that all food safety procedures, policies, and processes are well-documented and easily accessible to staff.

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| <ul style="list-style-type: none"> • Determine the impact of different food preservation methods on food safety and how processing affects the final product. • Explain the process of conducting food safety risk assessments and how they contribute to hazard prevention. • Describe the principles of crisis management, recall procedures, and preventive measures used in the food industry. • Discuss the microbiological, chemical, and physical testing methods applied to ensure food safety in processing environments. | <ul style="list-style-type: none"> • Demonstrate how to train personnel on hygiene practices and the importance of proper sanitation. • Show how to develop and implement food safety processes and HACCP plans to ensure compliance with safety standards. • Demonstrate how to enforce Standard Operating Procedures (SOPs) for cleaning and sanitation in food production environments. • Show how to monitor Hazard Analysis and Critical Control Points (HACCPs) and document the process accurately. • Demonstrate how to check for compliance with applicable regulations and GMPs, including personnel hygiene, equipment maintenance, and sanitary facilities. • Show how to ensure that applicable SOPs are followed for cleaning and sanitizing equipment and facilities. • Demonstrate how to monitor and document sanitation activities in food production areas. |
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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

Thermometers, pH Meter, Microbiological Testing Kit, Water Activity Meters, Inspection Kit, Supply Chain Management Tool

Module 4: Food Testing and Traceability Systems

Mapped FIC/N7632, v1.0

Terminal Outcomes:

- Explain the implementation and management of traceability systems and testing procedures to ensure food product safety.

Duration (in hours): 09:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Explain how to interpret food test results and implement corrective actions to ensure product safety and compliance. Describe the relevant traceability systems and technologies used to track and monitor food products through the supply chain. Discuss the supply chain risks, controls, and supplier quality management strategies to mitigate food safety hazards. Determine how to develop and deliver effective food safety training programs for employees in food processing environments. Explain the adult learning principles and training evaluation techniques that can be applied in food safety training programs. Describe the applicable documentation, record-keeping, and reporting requirements for maintaining compliance with food safety regulations. Discuss the document control systems and regulatory documentation requirements necessary for food safety audits and inspections. Determine how to effectively use relevant food safety management software and digital tools to monitor and ensure food safety compliance. Explain the data analysis and reporting tools used in food safety to interpret trends and identify potential risks. 	<ul style="list-style-type: none"> Demonstrate how to implement a traceability system that tracks the movement of ingredients and finished products through all stages of production, processing, and distribution. Show how to ensure that each batch of product is assigned a unique identifier linked to all relevant production data. Demonstrate how to maintain accurate and up-to-date records of all ingredients used, including their source, batch numbers, and test results. Show how to monitor the traceability system regularly to ensure its effectiveness and identify any gaps or inefficiencies. Demonstrate how to develop and document procedures for product recalls in case of safety concerns. Show how to ensure that the traceability system complies with local, national, and international food safety regulations. Demonstrate how to stay updated on changes in food safety legislation and adjust traceability practices accordingly. Show how to participate in audits and inspections by providing traceability records as required. Demonstrate how to monitor product quality throughout all stages of processing and inspect storage, processing, and packaging facilities for compliance with food safety standards. Show how to conduct internal audits using a structured audit plan, including defining scope, objectives, schedule, and

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	<p>audit checklist, to assess adherence to FSSAI requirements, including Schedule IV and applicable SOPs.</p> <ul style="list-style-type: none"> • Demonstrate how to evaluate food handling, processing, and sanitation practices to identify potential hazards or non-compliance issues. • Show how to review critical records such as temperature logs, cleaning schedules, pest control logs, and training documentation, and assess personnel knowledge of food safety practices. • Demonstrate how to verify the resolution of customer complaints and evaluate the effectiveness of corrective actions taken. • Show how to document audit observations, identify non-conformities and areas for improvement, and prepare detailed audit reports with corrective action plans and recommendations.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Microbiological Testing Kit, Water Activity Meters, Data Analysis Software, Gloves, Hairnets, Aprons, Lab coats, Face masks, Safety goggles, Handwashing Station, Fire Extinguisher, First Aid Kit	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialisation	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/ B.Sc	Food Safety and Quality Management/ Food Science/ Food Technology/ Food Processing	4	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Training of Concepts of Food Safety in Food Processing Unit	
B.Tech	Food Science/ Nutrition/ Food Engineering/ Food Technology	3	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Training of Concepts of Food Safety in Food Processing Unit	
M.Sc	Food Safety and Quality Management/ Food Science/ Food Technology/ Food Processing	2	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Training of Concepts of Food Safety in Food Processing Unit	
MBA	Food Safety and Quality Management	2	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Training of Concepts of Food Safety in Food Processing Unit	
M.Tech	Food Processing/ Food Technology	2	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Training of Concepts of Food Safety in Food Processing Unit	

Trainer Certification	
Domain Certification	Platform Certification



Certified for Job Role: “Concepts of Food Safety in Food Processing Unit” mapped to NOS: “FIC/N7632, v1.0”. 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	
Diploma	Food Safety and Quality Management/ Food Science/ Food Technology/ Food Processing/ Food Safety and Standards	5	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Assessment of Concepts of Food Safety in Food Processing Unit	
Graduate/ B.Sc	Food Safety and Quality Management/ Food Science/ Food Technology/ Food Processing	4	Food Science/ Home Science/ Food Processing/ Quality Analysis	1	Assessment of Concepts of Food Safety in Food Processing Unit	
B.Tech	Food Science/Nutrition/ Food Engineering/ Food Technology	3	Food Science/Home Science/ Food Processing/ Quality Analysis	1	Assessment of Concepts of Food Safety in Food Processing Unit	
M.Sc	Food Safety and Quality Management/ Food Science/ Food Technology/ Food Processing	2	Food Science/Home Science/ Food Processing/ Quality Analysis	1	Assessment of Concepts of Food Safety in Food Processing Unit	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Concepts of Food Safety in Food Processing Unit" mapped to NOS: "FIC/N7632, v1.0". 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 Concepts of Food Safety in Food Processing Unit) will be assessed separately.

2. The candidate must score 70% 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:



- Identifying Hazards and Assessing Associated Risks
- Managing Food Safety Policies and Conducting Training Programs
- Implementing Food Testing and Product Traceability Systems

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 it 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
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
FSSAI	Food Safety and Standards Authority of India
CCP	Critical Control Points
SOPs	Standard Operating Procedures
HACCP	Hazard Analysis and Critical Control Point
GMP	Good Manufacturing Practices
FSMS	Food Safety Management Systems