

# Model Curriculum

**QP Name: Milling Technician**

**QP Code: FIC/Q1002**

**QP Version: 2.0**

**NSQF Level: 4**

**Model Curriculum Version: 2.0**

Food Industry Capacity and Skill Initiative (FICSI)  
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## Training Parameters

<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Food Grain Milling
<b>Occupation</b>	Processing – Food Grain Milling
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2004/8273.90
<b>Minimum Educational Qualification and Experience</b>	1. Class 12th passed in any stream + 1 Year of relevant experience 2. Class 10th passed and 3 years of relevant experience 3. Class 10th passed and 2 years course in relevant stream + 1 Year of relevant experience 4. Class 10th pass and 2 years of ITI + 1 Year of relevant experience
<b>Pre-Requisite License or Training</b>	Not Applicable
<b>Minimum Job Entry Age</b>	20 years
<b>Last Reviewed On</b>	28/12/2021
<b>Next Review Date</b>	28/12/2024
<b>NSQC Approval Date</b>	28/12/2021
<b>QP Version</b>	2.0
<b>Model Curriculum Creation Date</b>	20/10/2021
<b>Model Curriculum Valid Up to Date</b>	28/12/2024
<b>Model Curriculum Version</b>	2.0
<b>Minimum Duration of the Course</b>	380 Hours
<b>Maximum Duration of the Course</b>	380 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:

- Perform and monitor various activities for grain milling
- Facilitate cleaning and regular maintenance of equipment at the workplace
- Apply necessary health and safety practices to ensure workplace health and safety
- Work effectively with others
- 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
<b>Bridge Module</b>	<b>32:00</b>	<b>12:00</b>	<b>00:00</b>	<b>00:00</b>	<b>44:00</b>
Module 1: Introduction to Food Processing Sector and the Job of 'Milling Technician'	04:00	00:00	00:00	00:00	04:00
Module 2: Employability and Entrepreneurship skills	28:00	12:00			40:00
<b>FIC/N9026: Prepare for production NOS Version 1.0 NSQF Level 3</b>	<b>12:00</b>	<b>32:00</b>	<b>00:00</b>	<b>00:00</b>	<b>44:00</b>
Module 3: Prepare for production	12:00	32:00	00:00	00:00	44:00
<b>FIC/N1005: Grain Milling NOS Version No. 2.0 NSQF Level 4</b>	<b>36:00</b>	<b>56:00</b>	<b>00:00</b>	<b>00:00</b>	<b>92:00</b>
Module 4: Ensure processing of grains	20:00	30:00	00:00	00:00	50:00
Module 5: Facilitate postproduction cleaning and regular maintenance of equipment	16:00	26:00	00:00	00:00	42:00
<b>FIC/N9901 – Apply Health and Safety practices at the workplace NOS Version No. 1.0 NSQF Level 3</b>	<b>08:00</b>	<b>16:00</b>	<b>00:00</b>	<b>00:00</b>	<b>24:00</b>
Module 6: Implement health and safety practices at workplace	04:00	08:00	00:00	00:00	12:00
Module 7: Managing accidents and emergencies	04:00	08:00	00:00	00:00	12:00
<b>FIC/N9902 – Work Effectively with others</b>	<b>08:00</b>	<b>08:00</b>	<b>00:00</b>	<b>00:00</b>	<b>16:00</b>

<b>NOS Version No. 1.0</b>					
<b>NSQF Level 3</b>					
Module 8: Working effectively in an organization	08:00	08:00	00:00	00:00	16:00
<b>SGJ/N1702 – Optimize Resource Utilization at the Workplace</b>	<b>12:00</b>	<b>28:00</b>	<b>00:00</b>	<b>00:00</b>	<b>40:00</b>
<b>NOS Version No. 1.0</b>					
<b>NSQF Level 3</b>					
Module 9: Material Conservation	04:00	08:00	00:00	00:00	12:00
Module 10: Energy / electricity conservation	04:00	12:00	00:00	00:00	16:00
Module 11: Waste Management / Recycling	04:00	08:00	00:00	00:00	12:00
<b>Total Duration</b>	<b>108:00</b>	<b>152:00</b>	<b>00:00</b>	<b>00:00</b>	<b>260:00</b>

Elective NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>FIC/N1028: Milling of cereals</b>					
<b>NOS Version 1.0</b>	<b>42:00</b>	<b>78:00</b>	<b>00:00</b>	<b>00:00</b>	<b>120:00</b>
<b>NSQF Level 4</b>					
Module 12: Milling of rice	15:00	29:00	00:00	00:00	44:00
Module 13: Milling of wheat	15:00	29:00	00:00	00:00	44:00
Module 14: Facilitate postproduction cleaning and regular maintenance of equipment	12:00	20:00	00:00	00:00	32:00
<b>Total Duration</b>	<b>42:00</b>	<b>78:00</b>	<b>00:00</b>	<b>00:00</b>	<b>120:00</b>

Elective NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>FIC/N1027: Milling of pulses</b>					
<b>NOS Version 1.0</b>	<b>42:00</b>	<b>78:00</b>	<b>00:00</b>	<b>00:00</b>	<b>120:00</b>
<b>NSQF Level 4</b>					
Module 15: Pre-processing of pulses for milling	10:00	18:00	00:00	00:00	28:00
Module 16: Carry out wet milling of pulses	10:00	20:00	00:00	00:00	30:00
Module 17: Carry out dry milling of pulses	10:00	20:00	00:00	00:00	30:00
Module 18: Facilitate postproduction cleaning and regular maintenance of equipment	12:00	20:00	00:00	00:00	32:00
<b>Total Duration</b>	<b>42:00</b>	<b>78:00</b>	<b>00:00</b>	<b>00:00</b>	<b>120:00</b>

## Module Details

### Module 1: Introduction to Food Processing Sector and the Job of 'Milling Technician'

#### Bridge Module

#### Terminal Outcomes:

- Describe the food processing industry and its sub-sectors in brief
- Discuss the roles and responsibilities of a Milling Technician
- Describe the traits of individual at workplace
- Demonstrate apply employability and entrepreneurship skills at workplace

<b>Duration:</b> 04:00	<b>Duration:</b> 00:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Discuss about the food processing industry and food grain milling sub-sector in brief</li> <li>• Discuss the career opportunities available to a milling technician in the food processing industry</li> <li>• Explain the terminologies used</li> <li>• List the sequence of operations to be performed in the job</li> <li>• State the food safety hygiene standards to follow in a work environment</li> </ul>	
<b>Classroom Aids:</b>	
Whiteboard, Marker, Duster, Projector, Laptop, PowerPoint Presentation	
<b>Tools, Equipment and Other Requirements</b>	
Nil	

## Module 2: Employability and Entrepreneurship skills

### Bridge Module

#### Terminal Outcomes:

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

Duration: 28:00	Duration: 12:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss own strengths and weaknesses and analyse the gaps to ensure continuous improvement.</li> <li>• Discuss the measures to be undertaken to utilise time effectively thereby achieving maximum productivity.</li> <li>• List the characteristics of innovative individuals</li> <li>• List the levels of Maslow Hierarchy of needs</li> <li>• List the traits of effective team</li> <li>• Discuss tips for stress management</li> <li>• Discuss the importance of good work ethics</li> <li>• Discuss how to manage an enterprise</li> <li>• Describe how to plan effective strategies for solving problems and improving work culture within the team.</li> <li>• List the various types of digital marketing techniques.</li> <li>• Discuss the types and importance of e-commerce in promoting businesses.</li> <li>• List the various types of online banking services being used widely.</li> <li>• Discuss the procedure to apply for bank finances</li> <li>• List the elements of a proposal to attract future business opportunities and prospective clients.</li> <li>• Explain how to conduct entrepreneurial programs to identify business opportunities, generate employment and increase clientele.</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to analyse a situation to identify gaps for improving the work process.</li> <li>• Demonstrate the procedure to plan the time taken to perform various tasks effectively.</li> <li>• Describe how market research is carried out</li> <li>• Role play the characteristics of an effective entrepreneur and leader</li> <li>• Demonstrate on how to identify new business opportunities</li> <li>• Prepare a sample plan to solve problems and improve productivity at the workplace.</li> <li>• Demonstrate the procedure to operate a computer for digital marketing, e-commerce, branding, etc.</li> <li>• Show how to use services such as NEFT, IMPS, UPI, RTGS for online banking.</li> </ul>

- Understand the make in India campaign
- Discuss the importance of Swachh Bharat Abhiyan
- Understand the importance of entrepreneurship
- Describe the traits of successful entrepreneur
- List the types of enterprises
- Understand the importance of effective speaking and listening
- Discuss the importance of problem solving
- Discuss how to deal with failures
- Describe the core keys of marketing
- Discuss ways to manage risks at workplace

**Classroom Aids:**

White board/Chart papers, marker.

**Tools, Equipment and Other Requirements**

NIL



## Module 3: Prepare for production

*Mapped to FIC/N9026 v. 1.0*

### Terminal Outcomes:

- Discuss the preparation tasks to be performed for grain milling
- State the importance of maintaining tools and equipment effectively

<b>Duration: 12:00</b>	<b>Duration: 32:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Elucidate production planning process.</li> <li>• List the manpower and material requirements as per work requirement.</li> <li>• Discuss the importance of various process charts, product flow charts, resource management process, etc.</li> <li>• List the priority of tasks as per work schedule.</li> <li>• Recall the steps to plan capacity utilization of machinery with respect to the processing time, production order and batch size for each product.</li> <li>• List down the basic concept of food safety and hygiene.</li> <li>• List the tools, equipment and production materials required.</li> <li>• Recall various steps required to organize production materials appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the procedure for obtaining work requirements from supervisors.</li> <li>• Prepare samples to plan and prioritize work schedules</li> <li>• Demonstrate how to estimate the resources as per the requirement (raw materials, packaging materials, machineries, and manpower)</li> <li>• Employ appropriate practices to plan capacity utilization of machineries</li> <li>• Carry out cleaning and maintaining the work area following organizational procedures.</li> <li>• Perform cleaning of machines and tools and sanitize them following the organization's specifications and standards.</li> <li>• Demonstrate how to dispose of the waste material at the designated place, safely.</li> <li>• Inspect the tools, equipment and machinery to ascertain suitability for use.</li> <li>• Report information such as faulty tools and equipment to the concerned authority.</li> <li>• Demonstrate how to organize production materials appropriately.</li> <li>• Demonstrate how to allot responsibilities to the helpers.</li> </ul>
<b>Classroom Aids</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Process related documents, Baking Sheet and Rack, Proof Box, Refrigerator, Commercial Mixer, Wire Whisker, Packaging Machine, Protective Gloves, Head Caps	

Sifter, winnowing machine, dehusker, splitter, destoner, Fire extinguishers, High speed exhausts, Masks – Head cover, mouth cover, cleaning ingredients and tools, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual

## Module 4: Ensure processing of grains

*Mapped to FIC/N1005 v2.0*

### Terminal Outcomes:

- Discuss the pre processing and processing of grains for milling
- Demonstrate the procedure for processing of grains

Duration: 20:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Explain the significance of cleaned and infestation free equipment</li> <li>• Elucidate automatic measuring scales with the standard weight and measures</li> <li>• Explain different set of controls for automatic measuring scales in continuous process to transfer measured quantity of food grains for milling</li> <li>• State the importance of checking the cleanliness, effectiveness, and installation of magnets</li> <li>• Discuss the relevance of controlling speed of screw or chain conveyor and motor to maintain flow rate of the material</li> <li>• Elaborate proper lubrication of machine parts with food grade lubricants</li> <li>• State how to maintain flow rate of material by gear of rpm motor attached with chain conveyor</li> <li>• Elucidate cleaning and inspection for effective grading and sieving of grains based on size and grade</li> <li>• Detail requirement of sensors to maintain the flow rate</li> <li>• Recall setting the controls of blowers or suction fan to remove light impurities and dust particles from screens and sieves</li> <li>• Explain the use of separator, aspirator, etc. to remove light weight impurities from grains</li> </ul>	<ul style="list-style-type: none"> <li>• Exemplify the understanding of controls for automatic measuring scales</li> <li>• Guide on procedure of installing the magnets</li> <li>• Demonstrate lubrication of machine parts with food grade lubricants</li> <li>• Show how to maintain flow rate of material by gear of rpm motor attached with chain conveyor</li> <li>• Exemplify cleaning and inspection of grains based on size and grade</li> <li>• Elucidate maintenance of process machines in case of breakdown/ non confirmatory or emergency with proper approval</li> <li>• Guide on how to check the working condition of sensors</li> <li>• Display what to check to ensure no leakage is there in blower or suction fan</li> <li>• Exhibit how to inspect fumigated raw material for absence of any live infestation in it</li> <li>• Demonstrate collection of process samples and transferring to quality lab for in process test</li> <li>• Show how to transfer the grains to the de-stoner machine to remove stones and prepare the grains for washing</li> <li>• Display how to set controls for water bath</li> <li>• Show how to adjust temperature, pressure, and speed of dryer</li> </ul>

<ul style="list-style-type: none"> <li>• State the functioning of de-stoner machine to remove stones and prepare the grains for washing</li> <li>• Discuss the importance of soaking, conditioning, and tempering of grains through water bath</li> <li>• Elaborate the use of dryer to maintain required moisture in grains</li> <li>• Discuss the parameters of husker to remove husk from the grain by adjusting the rollers (of rubber roll huskers) and setting the clearance between the rollers</li> <li>• Emphasize on cooling the grain and to blow off the bran</li> <li>• Share why to control the rotation of the cylinders</li> <li>• Elucidate the use of sifter to remove the broken grains and transfer them to the grinder for milling</li> <li>• State the use of band sealer, temperature indicator of FFS machine</li> <li>• Discuss the relevance of cleanliness by winnowing machine</li> <li>• Illustrate grading of grains as per the desired size</li> <li>• State how to collect sample of the processed grain and transfer to quality lab for analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Display the adjustment of roller speed, clearance, emery size, etc. of husker</li> <li>• Guide how to adjust the speed of the sifter and use of proper sieve size</li> <li>• Show how to use band sealer, temperature indicator of FFS machine</li> <li>• Display the functioning of winnowing machine to remove chaff, soil, dirt, etc.</li> <li>• Elucidate how to transfer the grains into a decorticator/dehusker to remove the hull from the grain</li> <li>• Demonstrate how to transfer grain into the destoner respectively to remove stones from the grain</li> <li>• Exemplify storage of desired grain for further processing</li> </ul>
<b>Classroom Aids:</b>	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
<b>Tools, Equipment, and Other Requirements</b>	
Automatic measuring scales, magnets, screw, or chain conveyor, blowers or suction fan, separator, aspirator, screens, and sieves, de-stoner machine, water bath, dryer, husker, rotation cylinders, FFS machine, winnowing machine, decorticator/dehusker, etc.	

## Module 5: Facilitate postproduction cleaning and regular maintenance of equipment

*Mapped to FIC/N1005 v2.0*

### Terminal Outcomes:

- Discuss the significance of cleaning and maintenance of equipment post the production
- Demonstrate the cleaning procedures by using appropriate tools and equipment

Duration: 16:00	Duration: 26:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Recall the legal metrology Act, 2009 for establishing the weights and measures as per the standards</li> <li>• State SOP for selecting the packaging materials</li> <li>• Explain the functioning of conveyors and elevators to transfer finished products to packing machine</li> <li>• Elaborate the working of packaging/bagging machinery</li> <li>• Explain the significance of lab analysis and conformance as per specification</li> <li>• Elucidate why documentation and maintenance of record on production, process details and the types of finished products produced is important</li> <li>• Explain how to identify the unapproved/waste samples</li> <li>• Recall periodic maintenance of all machines and equipment following SOP/supplier's manual</li> <li>• Elaborate on industry approved cleaning procedures (such as dismantling, hammering, pressurised dry air cleaning, Cleaning out of Place)</li> <li>• State the relevance of attending to minor repairs/faults of all machines</li> <li>• Guide on equipment fumigation as per SOP defined by organization from government certified fumigation agency</li> </ul>	<ul style="list-style-type: none"> <li>• Exemplify the artwork, layers, details etc. of the packaging material following SOP</li> <li>• Guide on providing information such as the product name, brand, size, net weight, count, manufacturer, supplier, batch code, date of packing, date of expiry, allergens, and country of origin etc</li> <li>• procedure of transferring finished products to packaging machine</li> <li>• Demonstrate filling packaging material with the feed as per the standard operating practices</li> <li>• Illustrate operation of packaging / bagging machinery by setting controls like batch code, date coding and filling quantity, printing mark, sealer temp and pressure etc</li> <li>• Show how to dispatch the product as per company requirement</li> <li>• Guide how to document and maintain the production records</li> <li>• Show how to maintain machines and equipment following SOP/supplier's manual</li> <li>• Exemplify how to collect machine refraction generated from each process like husk, dust, sticks, foreign grains following organizational waste disposal SOP procedure</li> </ul>
<b>Classroom Aids:</b>	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
<b>Tools, Equipment and Other Requirements</b>	
Packaging materials, conveyors, elevators, packaging/bagging machine, etc.	

## Module 6: Implement health and safety practices at the workplace

### Mapped to FIC/N9901 v 1.0

#### Terminal Outcomes:

- Discuss the importance of health and safety at the workplace
- Demonstrate the tasks to be performed for ensuring health and safety at the workplace

Duration: 04:00	Duration: 08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <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 the relevant health and safety standards to be followed in the job as listed in 'The Food Safety and Standards Act, 2006'.</li> <li>• 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.</li> <li>• Elucidate the ways to prevent product contamination and cross contamination at the workplace.</li> <li>• Discuss the ways to handle items that can lead to allergic reactions in a retail environment.</li> <li>• State the importance of preventive health check-ups for ensuring personal hygiene.</li> <li>• State the importance of storing food at specified temperature.</li> <li>• Discuss the importance of sanitising self and the work area safely and appropriately.</li> <li>• Recall the ways to store the sanitising materials appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>• Employ appropriate techniques to prevent product contamination and cross contamination.</li> <li>• Demonstrate the steps to be performed for implementing good manufacturing practices (GMP) in a retail environment.</li> <li>• Show how to treat injuries such as cuts, boils, skin infections and grazes appropriately.</li> <li>• Apply suitable methods for disinfecting the work area and equipment thoroughly.</li> <li>• Demonstrate how to wash hands and use alcohol-based sanitisers appropriately.</li> <li>• Show how to wear personal protective equipment such as gloves, hairnets, masks, ear plugs, goggles, shoes etc. properly ensuring adequate protection.</li> <li>• Prepare a sample report consisting of information such as illness to self and others as per organisational practice.</li> <li>• Roleplay a situation on how to communicate with the supervisor for reporting illness of self and others.</li> </ul>

**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 coat/eye protection, hard hats, gloves, rubber boots, etc.

## Module 7: Managing accidents and emergencies

### Mapped to FIC/N9901 v1.0

#### Terminal Outcomes:

- List the various types of accidents and emergencies that can arise at the workplace and the ways to address them
- Demonstrate the steps to be followed to implement emergency and evacuation procedures effectively

Duration: 04:00	Duration: 08:00
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>• Discuss the dangers associated with the use of electrical and other equipment.</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>• Recall the preventive and remedial actions to be taken in the case of exposure to toxic materials at the workplace.</li> <li>• Discuss the various causes of fire and ways to prevent them.</li> <li>• Elaborate the steps to use different types of fire extinguishers.</li> <li>• Explain the procedure to provide artificial respiration and cardio-pulmonary resuscitation(CPR) to the affected.</li> <li>• Summarise the rescue techniques to be followed at times of fire hazard.</li> <li>• Discuss the significance of various types of hazard and safety signs.</li> <li>• Discuss the workplace emergency and evacuation procedures.</li> <li>• Elaborate the type of first-aid treatment to be offered at times of shock, electrical</li> </ul>	<ul style="list-style-type: none"> <li>• Apply appropriate techniques to deal with hazards safely and appropriately.</li> <li>• Demonstrate the use of various types of fire extinguishers effectively.</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 for providing artificial respiration and cardio-pulmonary resuscitation (CPR) in various instances(e.g. cardiac arrest).</li> <li>• Perform the steps to be followed during emergency and evacuation procedure.</li> <li>• Demonstrate the procedure of freeing a person from electrocution.</li> <li>• Show how to administer appropriate first aid to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.</li> </ul>



<p>shock,bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries, etc.</p> <ul style="list-style-type: none"> <li>• Discuss about the potential injuries and ill health conditions that are caused due to incorrect manual handling practices.</li> <li>• List the precautions to be taken while lifting and carrying materials in a food retail environment.</li> </ul>	
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
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: Working Effectively in an Organization

### Mapped to FIC/N9902 v 1.0

#### Terminal Outcomes:

- State the importance of proper communication and teamwork at the workplace
- Roleplay a situation to communicate with others effectively

Duration: 08:00	Duration: 08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss the applicable organisational quality procedures and processes for working effectively in a team</li> <li>• Elucidate the legislations, standards, policies, and procedures followed in the organization relevant to employment, behaviour, harassment, discrimination, and performance conditions</li> <li>• State the importance of well-defined reporting structure in an organisation. List the various types of inter-dependent functions applicable in the job</li> <li>• Discuss the different types of harassment and discrimination based on gender, disability, caste, religion, and culture</li> <li>• List the key factors that aid in prioritising tasks</li> <li>• Discuss the components of effective communication and its importance at the workplace</li> <li>• State the impact of poor communication on the employee, the employer, and the customer</li> <li>• State the importance of teamwork in organizational and individual success.</li> <li>• Discuss the importance of ethics and discipline for professional success</li> <li>• Explain the ways to address grievances appropriately and effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Roleplay a situation on how to obtain information, seek clarifications, reciprocate understanding and provide information accurately and clearly</li> <li>• Roleplay a situation on how to use inclusive language (verbal, non-verbal and written) that is gender, disability and culturally sensitive while interacting with others</li> <li>• Show how to consult and assist others to maximize effectiveness and efficiency at work</li> <li>• Dramatize a situation to show how to escalate problems and grievances beyond own scope to the concerned authority</li> <li>• Roleplay a situation on how to take appropriate action to resolve conflicts at the workplace</li> <li>• Roleplay a situation on how to report incidents of harassment and discrimination to appropriate authority</li> </ul>

- Discuss the importance of managing interpersonal conflicts effectively and ways to do so
- List the different types of disabilities and the challenges faced by persons with disability (PwD)
- Discuss the applicable laws, acts and provisions defined for PwD by the statutory bodies
- State the importance of gender sensitivity and equality
- Discuss the applicable legislations, grievance redressal mechanisms, and penalties against harassment at the workplace
- State the importance of transacting with others without personal bias

**Classroom Aids:**

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

**Tools, Equipment and Other Requirements**

Nil

## Module 9: Material Conservation

*Mapped to SGJ/N1702 v 1.0*

### Terminal Outcomes:

- Discuss optimal usage of material including water in various tasks/activities/processes

Duration:04:00	Duration:08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• List the types of hazards, risks and threats associated with handling different materials</li> <li>• Discuss the role of workstation layout, electrical and thermal equipment used in the material conservation</li> <li>• Discuss organisational procedures for minimising waste</li> <li>• Elucidate practices of efficient and inefficient management and utilization of material and water at the workplace</li> <li>• Discuss the ways to manage material and water usage at work effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to check for spills and leakages in various materials applicable in the job</li> <li>• Demonstrate how to plug the spills and leakages appropriately</li> <li>• Roleplay a situation on how to escalate any issues related to repair of spills and leakages to the concerned authority effectively</li> <li>• Demonstrate the standard practices to be followed for cleaning tools, machines and equipment effectively</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Materials and tools and equipment used at work	

## Module 10: Energy/Electricity Conservation

*Mapped to SGJ/N1702 v 1.0*

### Terminal Outcomes:

- Discuss optimal usage of energy/electricity

<b>Duration: 04:00</b>	<b>Duration: 08:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Define electricity</li> <li>• Discuss the basics of electricity</li> <li>• List the energy efficient devices that are used in the job</li> <li>• Discuss the ways to identify electrical problems that can arise during work</li> <li>• Discuss the standard practices to be followed for conserving electricity in the job</li> <li>• State the impact of improperly connected electrical equipment and appliances on the tasks being performed</li> </ul>	<ul style="list-style-type: none"> <li>• Apply suitable techniques to check the equipment/machinery for desired level of functioning</li> <li>• Employ appropriate methods to rectify faulty equipment/machinery safely</li> <li>• Roleplay a situation on how to report equipment faults and maintenance lapses to the concerned personnel effectively</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Energy saving devices	

## Module 11: Waste Management/Recycling

### Mapped to SGJ/N1702 v 1.0

#### Terminal Outcomes:

- Discuss the importance of minimal waste generation
- Demonstrate how to dispose waste as per industry approved standards

<b>Duration:</b> 04:00	<b>Duration:</b> 08:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the various types of recyclable, non-recyclable, and hazardous waste</li> <li>• State the significance of different coloured dustbins</li> <li>• List the different types of waste to be segregated</li> <li>• State the importance of waste management</li> <li>• Discuss the standard methods for waste disposal</li> <li>• List the sources of pollution.</li> <li>• Discuss the ways to minimise various types of pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the standard practices to be followed for segregating waste into respective categories</li> <li>• Show how to dispose non-recyclable waste appropriately and safely</li> <li>• Demonstrate the standard practice for depositing recyclable and reusable materials at designated place</li> <li>• Show how to dispose hazardous waste safely and appropriately</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Non-recyclable, recyclable waste bins	

## Module 12: Milling of rice

### Mapped to FIC/N1028 v 1.0

#### Terminal Outcomes:

- Discuss the process of milling of rice
- Demonstrate how rice milling is accomplished as per industry approved standards

<b>Duration:</b> 15:00	<b>Duration:</b> 29:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• State the relevance of using water bath to soak paddy for obtaining par boiled rice</li> <li>• Signify the use of dryer to achieve the desired moisture content of parboiled rice</li> <li>• Elaborate the use of polisher rollers periodically to ensure uniformity in the product specifications</li> <li>• Specify how to ensure consistency and quality product</li> <li>• Recall quality lab analysis for milled rice and storage</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the standard practices to be followed for using water bath by maintaining temperature and pressure of the steam</li> <li>• Show how to gelatinize the starch</li> <li>• Illustrate setting of controls to operate dryer</li> <li>• Demonstrate the standard practice for using water polisher</li> <li>• Show how the polished rice is whitened through whitener and transferred to hopper</li> <li>• Exhibit the working of roller mills to obtain fineness and to achieve maximum yield</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Water bath, dryer, water polisher, whitener, roller mills, etc.	

## Module 13: Milling of wheat

### Mapped to FIC/N1028 v 1.0

#### Terminal Outcomes:

- Discuss the process of milling of wheat
- Demonstrate how wheat milling is accomplished as per industry approved standards

<b>Duration:</b> 15:00	<b>Duration:</b> 29:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• State the use of chakki for grinding and checking to ensure proper replacement with new one after regular interval</li> <li>• Signify why dampener is required and what parameters needs to be verified for its use</li> <li>• Discuss scourer functioning to check aleurone layer and germ layer are removed from wheat resulting in colour improvement of final product</li> <li>• Specify wheat flour analysis significance and discuss the process</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the standard practices to be followed for using chakki for grinding by adjusting pressure and speed of motor</li> <li>• Show how dampener is used to moisten wheat for further removal of bran, dust adhered to wheat</li> <li>• Illustrate the standard practice of sending the product for lab analysis</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Chakki, dampener, scourer, etc.	



## Module 14: Facilitate postproduction cleaning and regular maintenance of equipment

*Mapped to FIC/N1028 v1.0*

### Terminal Outcomes:

- Discuss the significance of cleaning and maintenance of equipment post the production
- Demonstrate the cleaning procedures by using appropriate tools and equipment

<b>Duration:</b> 12:00	<b>Duration:</b> 20:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Recall periodic maintenance of all machines and equipment following SOP/supplier's manual</li> <li>• Elaborate on industry approved cleaning procedures (such as dismantling, hammering, pressurised dry air cleaning, Cleaning out of Place)</li> <li>• State the relevance of attending to minor repairs/faults of all machines</li> <li>• Recall safety regulations while handling and operating equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to maintain machines and equipment following SOP/supplier's manual</li> <li>• Exemplify how to use industry approved cleaning procedures (such as dismantling, hammering, pressurised dry air cleaning, Cleaning out of Place)</li> </ul>
<b>Classroom Aids:</b>	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
<b>Tools, Equipment, and Other Requirements</b>	
Cleaning material, sanitizer, equipment used in rice and wheat milling, etc.	

## Module 15: Pre-processing of pulses for milling

### Mapped to FIC/N1027 v 1.0

#### Terminal Outcomes:

- Discuss the pre-process of milling of pulses
- Demonstrate how pulse milling is accomplished as per industry approved standards

<b>Duration:</b> 10:00	<b>Duration:</b> 18:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Define the physical, chemical, and biological characteristics for grading the pulses</li> <li>• Specify the importance of cleanliness of the equipment required for pulses processing</li> <li>• Discuss the setting of the controls for splitter machine to split or separate de-husked grains</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the grading basis the physical, chemical, and biological characteristics</li> <li>• Show how to check the cleanliness of the splitter polisher, mill, etc.</li> <li>• Illustrate how the splitter machine works to separate de-husker grains</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Splitter polisher, equipment required for processing pulses, etc.	

## Module 16: Carry out wet milling of pulses

*Mapped to FIC/N1027 v 1.0*

### Terminal Outcomes:

- Discuss the process of wet milling of pulses
- Demonstrate how wet milling of pulses is accomplished as per industry approved standards

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the functioning of abrasive roller machine for scratching of seed</li> <li>• State the relevance of using water bath to soak pulses for further processing</li> <li>• Signify the relevance of heaping process</li> <li>• Detail the splitter machine functionality by elaborating the use of each control</li> <li>• Elaborate the use of polisher machines to peel off the bran from pulses</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the soaking / conditioning (pitting) process</li> <li>• Illustrate how to set water level, temp, inflow, and outflow rate, etc. of water bath</li> <li>• Exhibit the complete process of heaping and husking</li> <li>• Show how to use rotation of the rotary blades, splitter machines: roller mills, under runner disk sheller, attrition mill, elevator and hard surface, impact sheller, etc.</li> <li>• Demonstrate how to use different components of polisher machine like, cylindrical hard rubber roll, leather belts or emery cone polisher, screw conveyors, oil/water treating machine, etc.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Abrasive roller machine, splitter polisher, polisher machine, etc.	

## Module 17: Carry out dry milling of pulses

*Mapped to FIC/N1027 v 1.0*

### Terminal Outcomes:

- Discuss the process of dry milling of pulses
- Demonstrate how dry milling of pulses is accomplished as per industry approved standards

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the functioning of roller huskers to remove husk from the pulses</li> <li>• State the relevance of using aspirator fan to separate de-husked pulses and remove husk</li> <li>• Signify the relevance of water bath for soaking, conditioning, and tempering of pulses</li> <li>• Detail how to check the moisture content and adjust controls of dryer to maintain required moisture in pulses</li> <li>• Elaborate the use of polisher machines to peel off the bran from pulses</li> <li>• List the importance of sifter and use of sieves</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the use of roller huskers by adjusting the roller parameters (of rubber roll huskers) and setting the clearance between the rollers</li> <li>• Illustrate how to set control parameters of aspirator fan</li> <li>• Exhibit the complete process of abrasive roller machine for scratching of seed to facilitate the entry of oil during soaking / conditioning (pitting) process heaping and husking</li> <li>• Show how to use splitter machines to split / separate de-husked dried pulses</li> <li>• Demonstrate how to use different components of polisher machine like, cylindrical hard rubber roll, leather belts or emery cone polisher, screw conveyors, oil/water treating machine, etc.</li> </ul>
<b>Classroom Aids:</b>	
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook	
<b>Tools, Equipment and Other Requirements</b>	
Abrasive roller machine, splitter polisher, polisher machine, etc.	

## Module 18: Facilitate postproduction cleaning and regular maintenance of equipment

*Mapped to FIC/N1027 v1.0*

### Terminal Outcomes:

- Discuss the significance of cleaning and maintenance of equipment post the production
- Demonstrate the cleaning procedures by using appropriate tools and equipment

<b>Duration:</b> 12:00	<b>Duration:</b> 20:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Recall periodic maintenance of all machines and equipment following SOP/supplier's manual</li> <li>• Elaborate on industry approved cleaning procedures (such as dismantling, hammering, pressurised dry air cleaning, Cleaning out of Place)</li> <li>• State the relevance of attending to minor repairs/faults of all machines</li> <li>• Recall safety regulations while handling and operating equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Show how to maintain machines and equipment following SOP/supplier's manual</li> <li>• Exemplify how to use industry approved cleaning procedures (such as dismantling, hammering, pressurised dry air cleaning, Cleaning out of Place)</li> </ul>
<b>Classroom Aids:</b>	
Training kit (Trainer guide, Presentations), Whiteboard, Marker, Projector, Laptop, Presentation, Participant Handbook, etc.	
<b>Tools, Equipment, and Other Requirements</b>	
Cleaning material, etc.	

# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate	Science	3	Hygiene practices	1	Training individuals on Cleaning and Sanitation practices	

Trainer Certification	
Domain Certification	Platform Certification
"Milling Technician", "FIC/Q1002, V2.0", Minimum accepted score is 80%	"Trainer", "MEP/Q2601, V1.0" with a scoring of minimum 80%

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate	Science	3	Hygiene practices	1	Assessing the individuals on Cleaning and Sanitation practices	

Assessor Certification	
Domain Certification	Platform Certification
"Milling Technician", "FIC/Q1002, V2.0", Minimum accepted score is 80%	"Assessor", "MEP/Q2701, 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 behavioural aspects as regards the job role and the specific task at hand.



## 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 <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	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
TVET	Technical and Vocational Education and Training
SOP	Technical and Vocational Education and Training
OH&S	Occupational Health and Safety
PPE	Personal Protective Equipment
HACCP	Hazard Analysis and Critical Control Points
VACCP	Vulnerability Assessment Critical Control Points
TACCP	Threat Assessment Critical Control Points
FSSAI	Food Safety and Standards Authority of India
FIFO	First In First Out
FEFO	First Expire First Out
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices
CPR	Cardiopulmonary Resuscitation