

# Jr. Coconut Processing Operator

Electives: Produce value added products from coconut kernel/ Produce coconut water from fresh coconuts/ Produce value added product from coconut sap

QP Code: FIC/Q0206

Version: 1.0

NSQF Level: 3

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## **FIC/Q0206: Jr. Coconut Processing Operator**

### **Brief Job Description**

A Jr. Coconut Processing Operator is responsible for identifying the raw materials and equipment required for processing of Coconut into different forms of products as per the food standard or regulation. They are also responsible for maintenance of equipment that are used in Coconut processing as per the food safety legislation and regulations.

### **Personal Attributes**

People in this role should have the ability to interpret the production schedule and carry out work as per the available resources. The individual must possess reading, writing and basic mathematic skills. He/she should have strong entrepreneurial skills, maintain sound physical health and personal hygiene.

### **Applicable National Occupational Standards (NOS)**

#### **Compulsory NOS:**

1. [FIC/N9026: Prepare for production](#)
2. [FIC/N0205: Carry out Coconut Processing](#)
3. [FIC/N9906: Apply food safety guidelines in Food Processing](#)
4. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

#### **Electives**(mandatory to select at least one):

##### **Elective 1: Produce value added products from coconut kernel**

This OS unit is about producing value added products like desiccated coconut, Coconut milk and virgin coconut oil using various equipment and following the food safety legislation and regulations of manufacturing

1. [FIC/N0206: Produce Value added products from coconut Kernel](#)

##### **Elective 2: Produce coconut water from fresh coconuts**

This OS unit is about producing value added products like coconut water from freshly harvested young green coconuts following the food safety legislation and regulations of manufacturing

1. [FIC/N0207: Produce coconut water from fresh coconuts](#)

##### **Elective 3: Produce value added product from coconut sap**

This OS unit is about producing jaggery from coconut sap following the food safety standards and goods manufacturing practices

1. [FIC/N0208: Produce value-added products from coconut sap](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Credits</b>	14
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7514.0100,7513.9900
<b>Minimum Educational Qualification &amp; Experience</b>	10th Class (Pass) OR 8th Class (with two years of (NTC/ NAC) after 8th) OR 9th grade pass with 1 Year of experience OR 8th grade pass with 2 Years of experience OR Previous relevant Qualification of NSQF Level (2) with 3 Years of experience relevant experience in Food Processing Industry OR Previous relevant Qualification of NSQF Level (2.5) with 1-2 Years of experience relevant experience in Food Processing Industry
<b>Minimum Level of Education for Training in School</b>	8th Class
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Approval Date</b>	

<b>Version</b>	1.0
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**Remarks:**

NA
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## FIC/N9026: Prepare for production

### Description

This NOS unit is about performing various tasks prior to production in the food processing industry.

### Scope

The scope covers the following :

- Plan for production
- Clean and maintain work area, machineries, and tools for production
- Organize for production

### Elements and Performance Criteria

#### *Plan for production*

To be competent, the user/individual on the job must be able to:

- PC1.** identify work requirements by obtaining instructions from the supervisor. Instructions: process chart, product flow chart, formulation, chart, etc.
- PC2.** plan and prioritize tasks as per work schedule. Tasks: inspect, clean, maintain, verify, etc.
- PC3.** estimate manpower and material requirements as per work requirement. Material: raw materials and packaging materials
- PC4.** ensure required quantity of raw materials, packaging materials, equipment, and manpower for production
- PC5.** plan capacity utilization of machinery with respect to the processing time, production order, and batch size for each product

#### *Clean and maintain work area, machineries, and tools for production*

To be competent, the user/individual on the job must be able to:

- PC6.** clean and maintain the work area as per organizational procedures
- PC7.** clean and maintain the machines and tools and sanitize them as per the organization's specifications and standards
- PC8.** dispose of the waste material at designated place safely. Waste material: hazardous waste, food waste, packaging waste, etc.
- PC9.** inspect the tools, equipment, and machinery to ascertain suitability for use
- PC10.** report information such as faulty tools and equipment to the concerned authority

#### *Organize for production*

To be competent, the user/individual on the job must be able to:

- PC11.** organize tools and equipment
- PC12.** receive and organize production materials appropriately. Production materials: raw materials, packaging materials, etc.
- PC13.** allot responsibilities/work to the assistants and helpers

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** production planning process
- KU2.** analysis and interpretation of various process charts, product flow charts, etc.
- KU3.** resource management process
- KU4.** procedure to estimate manpower and raw material
- KU5.** capacity utilization calculation
- KU6.** organizational policies and SOP on cleanliness
- KU7.** operating procedure and general maintenance of food production machineries
- KU8.** waste management procedures
- KU9.** methods to inspect tools, equipment and machinery
- KU10.** procedure to allot work or responsibility to the team

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and interpret organizational policies, SOP, production charts, etc.
- GS2.** communicate effectively with subordinates as well as supervisors
- GS3.** plan and prioritize various tasks
- GS4.** be always punctual and courteous
- GS5.** organize all process/equipment manuals to access information easily
- GS6.** discuss task lists, schedules, and activities with the senior/supervisor

**Assessment Criteria**

<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<i>Plan for production</i>	<b>11</b>	<b>25</b>	-	-
<b>PC1.</b> identify work requirements by obtaining instructions from the supervisor. Instructions: process chart, product flow chart, formulation, chart, etc.	3	6	-	-
<b>PC2.</b> plan and prioritize tasks as per work schedule. Tasks: inspect, clean, maintain, verify, etc.	2	5	-	-
<b>PC3.</b> estimate manpower and material requirements as per work requirement. Material: raw materials and packaging materials	2	4	-	-
<b>PC4.</b> ensure required quantity of raw materials, packaging materials, equipment, and manpower for production	2	5	-	-
<b>PC5.</b> plan capacity utilization of machinery with respect to the processing time, production order, and batch size for each product	2	5	-	-
<i>Clean and maintain work area, machineries, and tools for production</i>	<b>14</b>	<b>32</b>	-	-
<b>PC6.</b> clean and maintain the work area as per organizational procedures	3	7	-	-
<b>PC7.</b> clean and maintain the machines and tools and sanitize them as per the organization's specifications and standards	3	7	-	-
<b>PC8.</b> dispose of the waste material at designated place safely. Waste material: hazardous waste, food waste, packaging waste, etc.	3	7	-	-
<b>PC9.</b> inspect the tools, equipment, and machinery to ascertain suitability for use	3	6	-	-
<b>PC10.</b> report information such as faulty tools and equipment to the concerned authority	2	5	-	-
<i>Organize for production</i>	<b>5</b>	<b>13</b>	-	-
<b>PC11.</b> organize tools and equipment	2	7	-	-



<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<b>PC12.</b> receive and organize production materials appropriately. Production materials: raw materials, packaging materials, etc.	2	4	-	-
<b>PC13.</b> allot responsibilities/work to the assistants and helpers	1	2	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

**National Occupational Standards (NOS) Parameters**

<b>NOS Code</b>	FIC/N9026
<b>NOS Name</b>	Prepare for production
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Production
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	24/02/2022
<b>Next Review Date</b>	24/02/2025
<b>NSQC Clearance Date</b>	24/02/2022

## FIC/N0205: Carry out Coconut Processing

### Description

This OS unit is about performing various tasks for carrying out the Coconut processing using various equipment and following the approved process as per food safety legislation and regulations.

### Scope

The scope covers the following :

- The scope covers the following:
- Perform Coconut processing, Package the finished product, Carry out post production cleaning and maintenance of equipment

### Elements and Performance Criteria

#### *Perform Coconut processing*

To be competent, the user/individual on the job must be able to:

- PC1.** select the good quality coconut for processing
- PC2.** load the coconuts into de-husking machine to remove the husk or soak them in water for removing by hand
- PC3.** wash the de-husked coconuts in water to remove the dirt and debris

#### *Package the finished product*

To be competent, the user/individual on the job must be able to:

- PC4.** assess the quality of finished product(s) by checking the sample and transfer it to quality lab for analysis
- PC5.** transfer finished products to packing machine and start the conveyors and elevators safely
- PC6.** load appropriate labels in the packaging machine and accurate information for packing the finished product while following food laws and regulations
- PC7.**
  - operate packaging/bagging machinery by setting controls
  - controls: batch code, date coding and filling quantity, printing mark, sealer temp and pressure etc
- PC8.**
  - check the finished product contains the label with the product details
  - details: brand name, product name, nutritional information, manufacturing and best before date etc
- PC9.** inspect the weight of the packed/bagged product to ensure its conformance to standards
- PC10.** store the packaged products securely for distribution to market

#### *carry out post-production cleaning and regular maintenance of equipment*

To be competent, the user/individual on the job must be able to:

- PC11.** clean work area, machineries, equipment and tools as per SOP (such as dismantling of machine, cleaning out of place, cleaning in place and dry air)
- PC12.** attend to minor repairs/faults (if any) of machineries and equipment
- PC13.** follow organization procedure for disposal of waste

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Working of de-husking machine and how to load the coconuts into the machine
- KU2.** process of cracking the coconuts to get the kernel or flesh
- KU3.** quality standards of packaging materials
- KU4.** packaging process as per the organization standards
- KU5.** techniques to operate packaging machines
- KU6.** techniques of labelling the products
- KU7.** Cleaning the work area post the production
- KU8.** troubleshooting of machineries
- KU9.** method of dismantling of machines and reassembling them

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and interpret organizational policies and Process manuals, etc.
- GS2.** communicate with others effectively
- GS3.** plan and prioritize tasks to maximize productivity
- GS4.** be punctual and courteous
- GS5.** adhere to the production schedule and meet deadlines
- GS6.** read operation manuals and process documents to understand the equipment operation and process requirement

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform Coconut processing</i>	<b>9</b>	<b>12</b>	-	<b>6</b>
<b>PC1.</b> select the good quality coconut for processing	3	4	-	2
<b>PC2.</b> load the coconuts into de-husking machine to remove the husk or soak them in water for removing by hand	3	4	-	2
<b>PC3.</b> wash the de-husked coconuts in water to remove the dirt and debris	3	4	-	2
<i>Package the finished product</i>	<b>17</b>	<b>24</b>	-	<b>12</b>
<b>PC4.</b> assess the quality of finished product(s) by checking the sample and transfer it to quality lab for analysis	2	3	-	1
<b>PC5.</b> transfer finished products to packing machine and start the conveyors and elevators safely	2	3	-	2
<b>PC6.</b> load appropriate labels in the packaging machine and accurate information for packing the finished product while following food laws and regulations	3	4	-	2
<b>PC7.</b> <ul style="list-style-type: none"> <li>• operate packaging/bagging machinery by setting controls</li> <li>• controls: batch code, date coding and filling quantity, printing mark, sealer temp and pressure etc</li> </ul>	3	4	-	2
<b>PC8.</b> <ul style="list-style-type: none"> <li>• check the finished product contains the label with the product details</li> <li>• details: brand name, product name, nutritional information, manufacturing and best before date etc</li> </ul>	3	4	-	2
<b>PC9.</b> inspect the weight of the packed/bagged product to ensure its conformance to standards	2	3	-	2
<b>PC10.</b> store the packaged products securely for distribution to market	2	3	-	1

<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<i>carry out post-production cleaning and regular maintenance of equipment</i>	<b>6</b>	<b>9</b>	-	<b>5</b>
<b>PC11.</b> clean work area, machineries, equipment and tools as per SOP (such as dismantling of machine, cleaning out of place, cleaning in place and dry air)	2	3	-	2
<b>PC12.</b> attend to minor repairs/faults (if any) of machineries and equipment	2	3	-	2
<b>PC13.</b> follow organization procedure for disposal of waste	2	3	-	1
<b>NOS Total</b>	<b>32</b>	<b>45</b>	-	<b>23</b>

**National Occupational Standards (NOS) Parameters**

<b>NOS Code</b>	FIC/N0205
<b>NOS Name</b>	Carry out Coconut Processing
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>NSQF Level</b>	3
<b>Credits</b>	5
<b>Version</b>	1.0
<b>Next Review Date</b>	NA

## FIC/N9906: Apply food safety guidelines in Food Processing

### Description

This unit covers the essential components of food safety, Good Manufacturing Practices (GMP), and personal hygiene in the food industry. It emphasizes the importance of individuals working in the food industry in protecting the health and well-being of consumers by following food safety protocols and procedures and ensuring the production of safe and high-quality food products.

### Scope

The scope covers the following :

- Apply personal hygiene and follow Good Manufacturing practices at the workplace.
- Implement Food Safety and pre-requisite programs (PRP) at the workplace.

### Elements and Performance Criteria

*Apply personal hygiene and follow Good Manufacturing practices at workplace*

To be competent, the user/individual on the job must be able to:

- PC1.** PC1. follow a site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules.
- PC2.** PC2. follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines.
- PC3.** PC3. ensure timely participate and carry out the relevant training and awareness sessions on personal hygiene, GMP, and related topics.
- PC4.** PC4. ensure timely medical examination from a prescribed and authorized doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.
- PC5.** PC5. fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.
- PC6.**
- PC6. follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site.
  - procedure: Hand washing requirements, Gowning & De gowning protocols, cleaning, and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like Low Risk, High Risk, High Care areas, etc.
- PC7.** PC7. follow all validated Do's & Don'ts inside a food manufacturing firm.
- PC8.** PC8. 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.
- PC9.** PC9. refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line.
- PC10.** PC10. identify the material requirements such as manufacturing equipments, Utensils, and other processing aids, cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to Allergens and their risks. Wherever required, the allergen requirements shall be separately addressed.



- PC11.** PC11. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.
- PC12.** PC12. follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation.
- PC13.** PC13. participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.
- PC14.** PC14. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.

*Implement food safety practices at the workplace*

To be competent, the user/individual on the job must be able to:

- PC15.** PC15. maintain updated facilities, equipment, and tool and design requirements to minimize the risks associated with the products being handled at the site.
- PC16.** PC16. follow the instruction in the raw and packaging materials warehouse and ensure receiving material parameters match all the laid requirements. parameters: Incoming vehicles Visual report, storage, and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted & rejected goods, monitoring temperature and humidity, etc.
- PC17.** PC17. follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.
- PC18.** PC18. ensure timely check of the critical control points and product parameters.
- PC19.** PC19. record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.
- PC20.** PC20. report any food safety and GMP issue to the supervisor, if any.

## **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** importance of personal hygiene, GMP, visitors & contractor's rules. Associated risk in case of deviation from the standard policies and how the requirement is linked with the site's FSSAI License.
- KU2.** KU2. importance of training and work instruction delivered by the supervisors.
- KU3.** KU3. importance of filling the records and checklists, formats and how to ensure that the timely and effective completion is achieved.
- KU4.** KU4. knowledge of trainings and skills required to perform in food processing premises.
- KU5.** KU5. understand FSSAI Schedule IV requirements of food handlers and PRPs within the processing area
- KU6.** KU6. importance of timely medical examinations and awareness of communicable diseases
- KU7.** Understanding of Do's & Don'ts, intellect mindset to understand the visual illustrations
- KU8.** KU8. understanding about Site Zoning plans.
- KU9.** KU9. awareness of layout which would help to demarcate the defined movements of RM, PM, FG, and wastes generated during the processing of goods. This one lays a framework to launch Good Manufacturing Practices (GMP) successfully and effectively on site.

- KU10.** KU10. understand the manufacturing process, product parameters and process control parameters such as CCPs
- KU11.** KU11. understanding about Hazard Analysis and Critical Control Points (HACCP)
- KU12.** KU12. understanding about Allergens and their types and controls to monitor effective handling of allergen raw materials on site.
- KU13.** KU13. basic understanding of traceability and mock recall
- KU14.** KU14. awareness about Internal & external Audits
- KU15.** KU15. understanding for RCA CAPA, cleaning and sanitation
- KU16.** KU16. awareness about record keeping and data monitoring in various sheets as per organizational requirement

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** GS1. read and comprehend basic content to read labels, charts, signages, symbols and product manuals
- GS2.** GS2. communicate with coworkers appropriately to clarify instructions and other issues
- GS3.** GS3. plan and organize the work schedule, work area, tools, equipment, and materials for improved productivity
- GS4.** GS4. plan and prioritize tasks as per work requirements
- GS5.** GS5. always be punctual and courteous
- GS6.** GS6. good observations and intellect mindset

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Apply personal hygiene and follow Good Manufacturing practices at workplace</i>	<b>22</b>	<b>44</b>	-	<b>6</b>
<b>PC1.</b> PC1. follow a site relevant documented procedure for Personal Hygiene and Visitor/ Contractor rules.	2	4	-	-
<b>PC2.</b> PC2. follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines.	2	4	-	2
<b>PC3.</b> PC3. ensure timely participate and carry out the relevant training and awareness sessions on personal hygiene, GMP, and related topics.	2	4	-	-
<b>PC4.</b> PC4. ensure timely medical examination from a prescribed and authorized doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.	2	4	-	-
<b>PC5.</b> PC5. fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.	2	4	-	-
<b>PC6.</b> <ul style="list-style-type: none"> <li>• PC6. follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site.</li> <li>• procedure: Hand washing requirements, Gowning &amp; De gowning protocols, cleaning, and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like Low Risk, High Risk, High Care areas, etc.</li> </ul>	2	4	-	2
<b>PC7.</b> PC7. follow all validated Do's & Don'ts inside a food manufacturing firm.	1	2	-	1
<b>PC8.</b> PC8. 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.	2	4	-	-
<b>PC9.</b> PC9. refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line.	1	2	-	1

<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<b>PC10.</b> PC10. identify the material requirements such as manufacturing equipments, Utensils, and other processing aids, cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to Allergens and their risks. Wherever required, the allergen requirements shall be separately addressed.	2	4	-	-
<b>PC11.</b> PC11. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.	1	2	-	-
<b>PC12.</b> PC12. follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation.	1	2	-	-
<b>PC13.</b> PC13. participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.	1	2	-	-
<b>PC14.</b> PC14. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.	1	2	-	-
<i>Implement food safety practices at the workplace</i>	<b>8</b>	<b>16</b>	-	<b>4</b>
<b>PC15.</b> PC15. maintain updated facilities, equipment, and tool and design requirements to minimize the risks associated with the products being handled at the site.	2	4	-	-
<b>PC16.</b> PC16. follow the instruction in the raw and packaging materials warehouse and ensure receiving material parameters match all the laid requirements. parameters: Incoming vehicles Visual report, storage, and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted & rejected goods, monitoring temperature and humidity, etc.	1	2	-	1
<b>PC17.</b> PC17. follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.	2	4	-	2

<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<b>PC18.</b> PC18. ensure timely check of the critical control points and product parameters.	1	2	-	-
<b>PC19.</b> PC19. record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.	1	2	-	1
<b>PC20.</b> PC20. report any food safety and GMP issue to the supervisor, if any.	1	2	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	<b>-</b>	<b>10</b>

**National Occupational Standards (NOS) Parameters**

<b>NOS Code</b>	FIC/N9906
<b>NOS Name</b>	Apply food safety guidelines in Food Processing
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	3
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	NA
<b>Next Review Date</b>	23/06/2026
<b>NSQ Clearance Date</b>	23/06/2023

## DGT/VSQ/N0101: Employability Skills (30 Hours)

### Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

### Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

### Elements and Performance Criteria

#### *Introduction to Employability Skills*

To be competent, the user/individual on the job must be able to:

**PC1.** understand the significance of employability skills in meeting the job requirements

#### *Constitutional values - Citizenship*

To be competent, the user/individual on the job must be able to:

**PC2.** identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

#### *Becoming a Professional in the 21st Century*

To be competent, the user/individual on the job must be able to:

**PC3.** explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

#### *Basic English Skills*

To be competent, the user/individual on the job must be able to:

**PC4.** speak with others using some basic English phrases or sentences

#### *Communication Skills*

To be competent, the user/individual on the job must be able to:

**PC5.** follow good manners while communicating with others

**PC6.** work with others in a team

#### *Diversity & Inclusion*

To be competent, the user/individual on the job must be able to:

**PC7.** communicate and behave appropriately with all genders and PwD

**PC8.** report any issues related to sexual harassment

#### *Financial and Legal Literacy*

To be competent, the user/individual on the job must be able to:

**PC9.** use various financial products and services safely and securely

**PC10.** calculate income, expenses, savings etc.

**PC11.** approach the concerned authorities for any exploitation as per legal rights and laws

#### *Essential Digital Skills*

To be competent, the user/individual on the job must be able to:

**PC12.** operate digital devices and use its features and applications securely and safely

**PC13.** use internet and social media platforms securely and safely

#### *Entrepreneurship*

To be competent, the user/individual on the job must be able to:

**PC14.** identify and assess opportunities for potential business

**PC15.** identify sources for arranging money and associated financial and legal challenges

#### *Customer Service*

To be competent, the user/individual on the job must be able to:

**PC16.** identify different types of customers

**PC17.** identify customer needs and address them appropriately

**PC18.** follow appropriate hygiene and grooming standards

#### *Getting ready for apprenticeship & Jobs*

To be competent, the user/individual on the job must be able to:

**PC19.** create a basic biodata

**PC20.** search for suitable jobs and apply

**PC21.** identify and register apprenticeship opportunities as per requirement

## **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

**KU1.** need for employability skills

**KU2.** various constitutional and personal values

**KU3.** different environmentally sustainable practices and their importance

**KU4.** Twenty first (21st) century skills and their importance

**KU5.** how to use basic spoken English language

**KU6.** Do and dont of effective communication

**KU7.** inclusivity and its importance

**KU8.** different types of disabilities and appropriate communication and behaviour towards PwD

**KU9.** different types of financial products and services

**KU10.** how to compute income and expenses

**KU11.** importance of maintaining safety and security in financial transactions



- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation to avoid infection

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC2.</b> identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
<b>PC3.</b> explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC4.</b> speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC5.</b> follow good manners while communicating with others	-	-	-	-
<b>PC6.</b> work with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
<b>PC7.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC8.</b> report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>3</b>	<b>4</b>	-	-
<b>PC9.</b> use various financial products and services safely and securely	-	-	-	-
<b>PC10.</b> calculate income, expenses, savings etc.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	<b>4</b>	<b>6</b>	-	-
<b>PC12.</b> operate digital devices and use its features and applications securely and safely	-	-	-	-
<b>PC13.</b> use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	<b>3</b>	<b>5</b>	-	-
<b>PC14.</b> identify and assess opportunities for potential business	-	-	-	-
<b>PC15.</b> identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	<b>2</b>	<b>2</b>	-	-
<b>PC16.</b> identify different types of customers	-	-	-	-
<b>PC17.</b> identify customer needs and address them appropriately	-	-	-	-
<b>PC18.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>1</b>	<b>3</b>	-	-
<b>PC19.</b> create a basic biodata	-	-	-	-
<b>PC20.</b> search for suitable jobs and apply	-	-	-	-
<b>PC21.</b> identify and register apprenticeship opportunities as per requirement	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

**National Occupational Standards (NOS) Parameters**

<b>NOS Code</b>	DGT/VSQ/N0101
<b>NOS Name</b>	Employability Skills (30 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	2
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/01/2024
<b>Next Review Date</b>	31/01/2027
<b>NSQC Clearance Date</b>	31/01/2024

## FIC/N0206: Produce Value added products from coconut Kernel

### Description

This OS unit is about producing value added products like desiccated coconut, Coconut milk and virgin coconut oil using various equipment and following the food safety legislation and regulations of manufacturing.

### Scope

The scope covers the following :

- The scope covers the following:
- Prepare desiccated coconut
- Prepare coconut milk
- Extract coconut oil

### Elements and Performance Criteria

#### *prepare desiccated coconut*

To be competent, the user/individual on the job must be able to:

- PC1.** verify the cracked coconuts are free from any dirt and are ready for the next process
- PC2.** peel the brown portion of the coconut known as testa, using scrapping technique
- PC3.** wash the kernels with clean water to remove any dirt
- PC4.** cut the kernel to remove the coconut water
- PC5.** transfer the coconut into blanching tank with boiling water (for Blanching) for 8-10 minutes and put them into the cold water to cool down
- PC6.** use coconut grater or shredder to get the coconut flakes of different sizes
- PC7.** dry the different grades coconut flakes in a tunnel or belt dryer for 45 minutes at 80-90-degree centigrade temperature to remove the moisture content
- PC8.** pass the coconut flakes to the Sievers or sifters to grade them based on their size
- PC9.** use a hammer mill or disk mill grind the desiccated coconut to get another value added product the coconut powder
- PC10.** move the finished products (graded desiccated coconut, coconut powder) to the packaging area
- PC11.** clean and sanitize the equipment used in the process as per the cleaning guidelines

#### *Prepare coconut milk*

To be competent, the user/individual on the job must be able to:

- PC12.** verify the cracked coconuts are free from any dirt and are ready for the next process
- PC13.** peel the brown portion of the coconut known as testa, using scrapping technique
- PC14.** wash the kernels with clean water to remove any dirt
- PC15.** cut the kernel to remove the coconut water
- PC16.** transfer the coconut into blanching tank with boiling water (for Blanching) for 8-10 minutes and put them into the cold water to cool down
- PC17.** use coconut grater or shredder to cut them into smaller sizes

- PC18.** transfer the cut coconut to hydraulic pressure extractors to press them to extract milk
- PC19.** remove any residual coconut fibres from the milk using a sieve or filter
- PC20.** transfer it to filter presses or membrane filters to get more refined coconut milk
- PC21.** pasteurize the milk at 72-75 degrees temperature using pasteurizing machine to destroy harmful bacteria for 20 minutes
- PC22.** transfer the milk to the cooling system and allow it to cool
- PC23.** transfer the cooled milk to the mechanical homogenizer or emulsification system to break the fat particles into smaller particles
- PC24.** check the quality of the milk for color, viscosity, flavor and microbiological safety
- PC25.** move the produce to the designated area for packaging

#### *Extract coconut oil - Cold press method*

To be competent, the user/individual on the job must be able to:

- PC26.** place the grated coconut meat into an industrial grade milk extractor (which applies centrifugal force) to separate milk from the coconut meat
- PC27.** transfer the filtered milk to a big container and allow it to ferment (this process creates a top layer of coconut cream, middle layer coconut oil and bottom layer of water)
- PC28.** skim off the middle layer of oil with the help of automated skimming equipment
- PC29.** allow it to settle for 72 hrs so that the water gets evaporated
- PC30.** collect the filtered oil in large containers
- PC31.** filter the resulting oil to remove any further solid remains
- PC32.** move the produce to the designated area for packaging

#### *Extract coconut oil - Hot processing method*

To be competent, the user/individual on the job must be able to:

- PC33.** pick the clean, dry, good quality copra for oil extraction
- PC34.** use pulverisers to crush to coconut meat or copra to smaller particles
- PC35.** reduce the moisture content by heating the particles of copra using a dryer or direct flame
- PC36.** load the dried coconut into the expeller machine to crush them to extract oil
- PC37.** collect the oil in the barrel of the machine and expel the other solid wastes
- PC38.** use the filtration system to remove any impurities in the extracted oil
- PC39.** move it to the designated area for packaging

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** working of grating machines
- KU2.** importance of blanching in coconut processing
- KU3.** scrapping technique used for removing brown layer or testa
- KU4.** different methods of drying coconut- air-drying, sun-drying and oven drying
- KU5.** process of grading the ground coconut
- KU6.** pulverizing machines and its uses
- KU7.** working of hammer mill and disk mill
- KU8.** sieving process, difference between vibratory sieve and rotary sieve

- KU9.** pasteurization techniques
- KU10.** importance of homogenization of coconut milk
- KU11.** Importance of maintaining the temperature and time duration during pasteurization
- KU12.** pressure levels maintained for the homogenization process
- KU13.** the effect of the quality of the extracted milk after the homogenization process
- KU14.** quality check for coconut milk- color, flavor, viscosity and microbiological safety
- KU15.** cold pressing method and hot processing method of coconut oil extraction
- KU16.** different between the cold pressed coconut oil and hot-pressed coconut oil
- KU17.** working of centrifuge machines and their purpose
- KU18.** skimming process in coconut oil extraction
- KU19.** function of filters in oil extraction

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and interpret organizational policies and Process manuals, etc.
- GS2.** communicate with others effectively
- GS3.** plan and prioritize tasks to maximize productivity
- GS4.** be punctual and courteous
- GS5.** adhere to the production schedule and meet deadline
- GS6.** read operation manuals and process documents to understand the equipment operation and process requirement

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>prepare desiccated coconut</i>	<b>7</b>	<b>14</b>	-	<b>5</b>
<b>PC1.</b> verify the cracked coconuts are free from any dirt and are ready for the next process	0.5	1	-	-
<b>PC2.</b> peel the brown portion of the coconut known as testa, using scrapping technique	0.5	1	-	0.5
<b>PC3.</b> wash the kernels with clean water to remove any dirt	0.5	1	-	-
<b>PC4.</b> cut the kernel to remove the coconut water	0.5	1	-	-
<b>PC5.</b> transfer the coconut into blanching tank with boiling water (for Blanching) for 8-10 minutes and put them into the cold water to cool down	0.5	1	-	0.5
<b>PC6.</b> use coconut grater or shredder to get the coconut flakes of different sizes	1	2	-	0.5
<b>PC7.</b> dry the different grades coconut flakes in a tunnel or belt dryer for 45 minutes at 80-90-degree centigrade temperature to remove the moisture content	1	2	-	1
<b>PC8.</b> pass the coconut flakes to the Sievers or sifters to grade them based on their size	0.5	1	-	1
<b>PC9.</b> use a hammer mill or disk mill grind the desiccated coconut to get another value added product the coconut powder	1	2	-	1
<b>PC10.</b> move the finished products (graded desiccated coconut, coconut powder) to the packaging area	0.5	1	-	0.5
<b>PC11.</b> clean and sanitize the equipment used in the process as per the cleaning guidelines	0.5	1	-	-
<i>Prepare coconut milk</i>	<b>12</b>	<b>17</b>	-	<b>6</b>
<b>PC12.</b> verify the cracked coconuts are free from any dirt and are ready for the next process	0.5	1	-	0.5
<b>PC13.</b> peel the brown portion of the coconut known as testa, using scrapping technique	1	2	-	0.5



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> wash the kernels with clean water to remove any dirt	0.5	1	-	-
<b>PC15.</b> cut the kernel to remove the coconut water	0.5	1	-	-
<b>PC16.</b> transfer the coconut into blanching tank with boiling water (for Blanching) for 8-10 minutes and put them into the cold water to cool down	1	1	-	1
<b>PC17.</b> use coconut grater or shredder to cut them into smaller sizes	0.5	1	-	-
<b>PC18.</b> transfer the cut coconut to hydraulic pressure extractors to press them to extract milk	1	1	-	1
<b>PC19.</b> remove any residual coconut fibres from the milk using a sieve or filter	1	1	-	-
<b>PC20.</b> transfer it to filter presses or membrane filters to get more refined coconut milk	1	1	-	-
<b>PC21.</b> pasteurize the milk at 72-75 degrees temperature using pasteurizing machine to destroy harmful bacteria for 20 minutes	1	2	-	0.5
<b>PC22.</b> transfer the milk to the cooling system and allow it to cool	1	2	-	0.5
<b>PC23.</b> transfer the cooled milk to the mechanical homogenizer or emulsification system to break the fat particles into smaller particles	1	1	-	1
<b>PC24.</b> check the quality of the milk for color, viscosity, flavor and microbiological safety	1	1	-	-
<b>PC25.</b> move the produce to the designated area for packaging	1	1	-	1
<i>Extract coconut oil - Cold press method</i>	<b>7</b>	<b>9</b>	-	<b>6</b>
<b>PC26.</b> place the grated coconut meat into an industrial grade milk extractor (which applies centrifugal force) to separate milk from the coconut meat	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC27.</b> transfer the filtered milk to a big container and allow it to ferment (this process creates a top layer of coconut cream, middle layer coconut oil and bottom layer of water)	1	2	-	1
<b>PC28.</b> skim off the middle layer of oil with the help of automated skimming equipment	1	1	-	1
<b>PC29.</b> allow it to settle for 72 hrs so that the water gets evaporated	1	1	-	1
<b>PC30.</b> collect the filtered oil in large containers	1	1	-	0.5
<b>PC31.</b> filter the resulting oil to remove any further solid remains	1	1	-	0.5
<b>PC32.</b> move the produce to the designated area for packaging	1	1	-	1
<i>Extract coconut oil - Hot processing method</i>	<b>7</b>	<b>7</b>	-	<b>3</b>
<b>PC33.</b> pick the clean, dry, good quality copra for oil extraction	1	1	-	1
<b>PC34.</b> use pulverisers to crush to coconut meat or copra to smaller particles	1	1	-	1
<b>PC35.</b> reduce the moisture content by heating the particles of copra using a dryer or direct flame	1	1	-	-
<b>PC36.</b> load the dried coconut into the expeller machine to crush them to extract oil	1	1	-	-
<b>PC37.</b> collect the oil in the barrel of the machine and expel the other solid wastes	1	1	-	0.5
<b>PC38.</b> use the filtration system to remove any impurities in the extracted oil	1	1	-	-
<b>PC39.</b> move it to the designated area for packaging	1	1	-	0.5
<b>NOS Total</b>	<b>33</b>	<b>47</b>	-	<b>20</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N0206
<b>NOS Name</b>	Produce Value added products from coconut Kernel
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>NSQF Level</b>	3
<b>Credits</b>	3
<b>Version</b>	1.0
<b>Next Review Date</b>	NA

## **FIC/N0207: Produce coconut water from fresh coconuts**

### **Description**

This OS unit is about producing value added products like coconut water from freshly harvested young green coconuts following the food safety legislation and regulations of manufacturing

### **Scope**

The scope covers the following :

- The scope covers the following:
- Prepare for coconut water extraction
- Extract coconut water
- Perform post production activities

### **Elements and Performance Criteria**

#### *Prepare for coconut water extraction*

To be competent, the user/individual on the job must be able to:

- PC1.** harvest the fresh green coconuts from the tree and transfer it to processing plant
- PC2.** Check the coconuts for visible damage or contaminants
- PC3.** Clean and sterilize the coconut to remove any dirt or germs
- PC4.** Verify the extraction equipment are available and are working
- PC5.** Clean the equipment using approved cleaning agents
- PC6.** use a de-husking machine to remove the outer layer
- PC7.** transfer the de-husked coconuts to the processing area for coconut water extraction

#### *Extract coconut water*

To be competent, the user/individual on the job must be able to:

- PC8.** use coconut drills to make a hole in the coconut
- PC9.** place the trimmed end of the coconut facing down ward in the conveyor system
- PC10.** driller/cutter makes a whole in each of the coconut for the water to flow
- PC11.** coconut water flows into the collection channels or containers
- PC12.** use a filter/sieve to remove small particles, pulp or other impurities
- PC13.** pasteurize the filtered coconut water and allow it to cool at 8-10° degree Celsius
- PC14.** collect the pasteurized coconut water in the aseptic tank
- PC15.** use direct ultra-high temperature sterilization at 140-144° C for four second
- PC16.** add preservatives or natural flavoring if needed
- PC17.** send samples for testing the attributes of the coconut water attributes: aroma, colour, flavour, texture etc
- PC18.** transport it to the designated area for packaging

#### *Perform post production activities*

To be competent, the user/individual on the job must be able to:

- PC19.** clean the equipment using approved cleaning agents

- PC20.** clean the work area using industry approved the sanitizers
- PC21.** allow the equipment to dry and use towels to remove the moisture content
- PC22.** carry out regular maintenance of equipment and the other areas

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** market for packaged coconut water
- KU2.** various processes in the extraction of coconut water
- KU3.** selection of mature/ fresh coconut for water extraction
- KU4.** working of the various tools used in the extraction of coconut water
- KU5.** importance of pasteurization and UHT sterilization techniques
- KU6.** attributes to check as part of Quality control
- KU7.** Industry best practices for manufacturing goods (GMP)
- KU8.** FSSAI standards with regard to packed foods and its shelf life
- KU9.** personal health and safety standards while at work

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and interpret policies and process manuals
- GS2.** communicate with others effectively
- GS3.** plan and prioritize tasks to maximize productivity
- GS4.** be punctual and courteous
- GS5.** adhere to the production schedule and meet deadline
- GS6.** read operation manuals and process documents to understand the equipment operation and process requirement

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for coconut water extraction</i>	<b>11</b>	<b>15</b>	-	<b>7</b>
<b>PC1.</b> harvest the fresh green coconuts from the tree and transfer it to processing plant	1	2	-	1
<b>PC2.</b> Check the coconuts for visible damage or contaminants	1	2	-	1
<b>PC3.</b> Clean and sterilize the coconut to remove any dirt or germs	2	3	-	1
<b>PC4.</b> Verify the extraction equipment are available and are working	2	3	-	1
<b>PC5.</b> Clean the equipment using approved cleaning agents	2	1	-	1
<b>PC6.</b> use a de-husking machine to remove the outer layer	2	2	-	1
<b>PC7.</b> transfer the de-husked coconuts to the processing area for coconut water extraction	1	2	-	1
<i>Extract coconut water</i>	<b>16</b>	<b>27</b>	-	<b>11</b>
<b>PC8.</b> use coconut drills to make a hole in the coconut	1	2	-	1
<b>PC9.</b> place the trimmed end of the coconut facing down ward in the conveyor system	1	2	-	1
<b>PC10.</b> driller/cutter makes a whole in each of the coconut for the water to flow	2	3	-	1
<b>PC11.</b> coconut water flows into the collection channels or containers	2	3	-	1
<b>PC12.</b> use a filter/sieve to remove small particles, pulp or other impurities	2	3	-	1
<b>PC13.</b> pasteurize the filtered coconut water and allow it to cool at 8-10° degree Celsius	2	3	-	1
<b>PC14.</b> collect the pasteurized coconut water in the aseptic tank	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC15.</b> use direct ultra-high temperature sterilization at 140-144° C for four second	2	3	-	1
<b>PC16.</b> add preservatives or natural flavoring if needed	1	2	-	1
<b>PC17.</b> send samples for testing the attributes of the coconut water attributes: aroma, colour, flavour, texture etc	1	2	-	1
<b>PC18.</b> transport it to the designated area for packaging	1	2	-	1
<i>Perform post production activities</i>	<b>4</b>	<b>6</b>	-	<b>3</b>
<b>PC19.</b> clean the equipment using approved cleaning agents	1	2	-	1
<b>PC20.</b> clean the work area using industry approved the sanitizers	1	2	-	1
<b>PC21.</b> allow the equipment to dry and use towels to remove the moisture content	1	1	-	1
<b>PC22.</b> carry out regular maintenance of equipment and the other areas	1	1	-	-
<b>NOS Total</b>	<b>31</b>	<b>48</b>	-	<b>21</b>

**National Occupational Standards (NOS) Parameters**

<b>NOS Code</b>	FIC/N0207
<b>NOS Name</b>	Produce coconut water from fresh coconuts
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>NSQF Level</b>	3
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Next Review Date</b>	NA



## **FIC/N0208: Produce value-added products from coconut sap**

### **Description**

This OS unit is about producing jaggery from coconut sap following the food safety standards and goods manufacturing practices

### **Scope**

The scope covers the following :

- The scope covers the following:
- Prepare coconut jaggery

### **Elements and Performance Criteria**

#### *prepare coconut jaggery*

To be competent, the user/individual on the job must be able to:

- PC1.** collect the coconut sap from the coconut palm
- PC2.** use a filter to remove impurities and dirt
- PC3.** use a vacuum pan to boil the sap at a low temperature till it reaches a thick, syrup consistency
- PC4.** use evaporator to remove excess water to increase concentration of sugar
- PC5.** stir it well till it reaches a desired consistency
- PC6.** transfer the hot syrup to clarifier to remove any impurities or solid particles (clarification process)
- PC7.** pour the clarified syrup back to the vacuum pan for further boiling and evaporation
- PC8.** use a drop test to check the consistency of the jaggery
- PC9.** use the color and taste test to check the sweetness level of the mixture
- PC10.** transfer the syrup to mould after its boiled till a desired consistency to cool and solidify
- PC11.** transport the finished product to the designated area for packaging
- PC12.** clean and sanitize the equipment used in the process as per the cleaning guidelines

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** Process of taking sap from the coconut palm
- KU2.** various equipment used in jaggery extraction from coconut sap
- KU3.** clarification process to remove impurities
- KU4.** ways of testing the consistency of jaggery
- KU5.** use of banana leaves or perching paper in moulds
- KU6.** cleaning and sanitization of equipment
- KU7.** GMP and FSSAI guidelines for food safety of packaged foods and manufacturing

## **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and interpret organizational policies and Process manuals, etc.
- GS2.** communicate with others effectively
- GS3.** plan and prioritize tasks to maximize productivity
- GS4.** be punctual and courteous
- GS5.** adhere to the production schedule and meet deadline
- GS6.** read operation manuals and process documents to understand the equipment operation and process requirement

**Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>prepare coconut jaggery</i>	<b>33</b>	<b>44</b>	-	<b>23</b>
<b>PC1.</b> collect the coconut sap from the coconut palm	4	5	-	2
<b>PC2.</b> use a filter to remove impurities and dirt	3	4	-	2
<b>PC3.</b> use a vacuum pan to boil the sap at a low temperature till it reaches a thick, syrup consistency	4	5	-	2
<b>PC4.</b> use evaporator to remove excess water to increase concentration of sugar	3	4	-	2
<b>PC5.</b> stir it well till it reaches a desired consistency	2	3	-	2
<b>PC6.</b> transfer the hot syrup to clarifier to remove any impurities or solid particles (clarification process)	3	4	-	2
<b>PC7.</b> pour the clarified syrup back to the vacuum pan for further boiling and evaporation	3	4	-	2
<b>PC8.</b> use a drop test to check the consistency of the jaggery	3	4	-	2
<b>PC9.</b> use the color and taste test to check the sweetness level of the mixture	2	3	-	2
<b>PC10.</b> transfer the syrup to mould after its boiled till a desired consistency to cool and solidify	2	3	-	2
<b>PC11.</b> transport the finished product to the designated area for packaging	2	2	-	1
<b>PC12.</b> clean and sanitize the equipment used in the process as per the cleaning guidelines	2	3	-	2
<b>NOS Total</b>	<b>33</b>	<b>44</b>	-	<b>23</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	FIC/N0208
<b>NOS Name</b>	Produce value-added products from coconut sap
<b>Sector</b>	Food Processing
<b>Sub-Sector</b>	Fruits and Vegetables
<b>Occupation</b>	Processing-Fruits and Vegetables
<b>NSQF Level</b>	3
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Next Review Date</b>	NA

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

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. Assessment will be based on the concept of Independent Assessors empanelled with Assessment

On the Job:

1. Each module will be assessed separately.
2. To complete the OJT, The candidate must score 70% in each module.
3. Tools of Assessment that will be used for assessing whether the candidate has desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and performing Soft Skills effectively:
  - a. Videos of Trainees during OJT
4. Assessment of each Module will ensure that the candidate can:
  - a. Effective engagement with the customers
  - b. Understand the working of various tools and equipment

### **Minimum Aggregate Passing % at QP Level : 70**

**(Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

### **Assessment Weightage**

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N9026.Prepare for production	30	70	-	-	100	20
FIC/N0205.Carry out Coconut Processing	32	45	0	23	100	30
FIC/N9906.Apply food safety guidelines in Food Processing	30	60	-	10	100	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>112</b>	<b>205</b>	<b>-</b>	<b>33</b>	<b>350</b>	<b>70</b>

Elective: 1 Produce value added products from coconut kernel

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N0206.Produce Value added products from coconut Kernel	33	47	0	20	100	30
<b>Total</b>	<b>33</b>	<b>47</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>30</b>

Elective: 2 Produce coconut water from fresh coconuts

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
FIC/N0207.Produce coconut water from fresh coconuts	31	48	0	21	100	30
<b>Total</b>	<b>31</b>	<b>48</b>	<b>-</b>	<b>21</b>	<b>100</b>	<b>30</b>

Elective: 3 Produce value added product from coconut sap

<b>National Occupational Standards</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>	<b>Total Marks</b>	<b>Weightage</b>
FIC/N0208.Produce value-added products from coconut sap	33	44	0	23	100	30
<b>Total</b>	<b>33</b>	<b>44</b>	<b>-</b>	<b>23</b>	<b>100</b>	<b>30</b>

## Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skill Qualification Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>AA</b>	Assessment Agency
<b>AB</b>	Awarding Body
<b>ISCO</b>	International Standard Classification of Occupations
<b>NCO</b>	National Classification of Occupations
<b>NCrF</b>	National Credit Framework
<b>NOS</b>	National Occupational Standard(s)
<b>NQR</b>	National Qualification Register
<b>NSQF</b>	National Skills Qualifications Framework
<b>OJT</b>	On the job training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualification Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>MLF</b>	Malolactic Fermentation
<b>TA</b>	Titrateable Acid
<b>pH</b>	Power of Hydrogen
<b>FSSAI</b>	Food Safety and Standards Authority of India



<b>GMPs</b>	Good Manufacturing Practices
<b>HACCP</b>	Hazard Analysis Critical Control Point
<b>VACCP</b>	Vulnerability Assessment Critical Control Points
<b>TACCP</b>	Threat Assessment Critical Control Points
<b>RCA</b>	Root Cause Analysis
<b>CAPA</b>	Corrective Action Preventive Action
<b>PPE</b>	Personal Protective Equipment
<b>CPR</b>	Cardio-Pulmonary Resuscitation
<b>GHP</b>	Good Hygiene Practices
<b>SOPs</b>	Standard Operating Procedures
<b>PwD</b>	People with Disabilities
<b>NOS</b>	National Occupational Standard(s)
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<b>SOP</b>	Standard Operating Procedures
<b>PwD</b>	People with Disabilities

## Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
<b>National Occupational Standard</b>	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualifications</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long-term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above.
<b>Sector</b>	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
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