



Jam, Jelly and Ketchup Processing Technician

QP Code: PWD/FIC/Q0103

Version: 2.0

NSQF Level: 3

Skill Council for PwD || 501, City Centre, 5th Floor, 12/5, Plot 5, Sector 12, Dwaraka
New Delhi 110076

Adoption of Job Role for PwD : Job mapping is critical for skill training of PwD so that the livelihood opportunity looks at him/ her not because he/ she is having a disability but because of the skill. Mapping with a disability involves research with subject matter experts (SMEs) with a view on the industry requirement without compromising on performance outcome. In cases, mapping is also supported by the use of assistive tools/ technology.

Expository Mapped Parameters

Sector	PwD
Originating SSC	Food Processing
Original QP code	FIC/Q0103
QP Version	2.0
Expository Next Review Date	NA

Expository Code	Expository Version	Expository Name	Minimum Entry Criteria	Expository Linked On
E004	1.0	Speech and Hearing Impairment	8th Class (NA) with NA Experience (NA)	N/A
E001	1.0	Locomotor Disability	10th Class (NA) with 2 Years Experience (NA)	N/A

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FIC/Q0103: Jam, Jelly and Ketchup Processing Technician

Brief Job Description

A Jam, Jelly and Ketchup Processing Technician is responsible for processing fruits and vegetables to make jam, jelly and ketchup by receiving, checking raw material quality, sorting, pulping, pasteurizing, cooking, juice extracting, clarifying, filtering, sampling for quality analysis, cooling, packaging and storing.

Personal Attributes

A Jam, Jelly and Ketchup Processing Technician must have the ability to plan, organize, prioritize, calculate and handle pressure. The individual must possess reading, writing and communication skills. In addition, the individual must have stamina and professional hygiene.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N0109: Prepare and maintain work area and process machineries for jam,jelly and ketchup processing](#)
2. [FIC/N0110: Prepare for production of jam, jelly and ketchup](#)
3. [FIC/N0111: Produce jam, jelly and ketchup](#)
4. [FIC/N0112: Complete documentation and record keeping related to production of jam, jelly and ketchup](#)
5. [FIC/N9001: Ensure food safety, hygiene and sanitation for processing food products](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Processing-Fruits and Vegetables
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7414.90
Minimum Educational Qualification & Experience	10th Class OR 8th Class with 2 Years of experience Relevant experience

Minimum Level of Education for Training in School	8th Class
Pre-Requisite License or Training	1. Food standards for fruit and vegetable products 2. Method of preservation of fruits and vegetables 3. Handling fruits and vegetables, packaging and storage techniques 4. Quality assessment of raw material, packaging materials and finished products 5. Operation and maintenance of processing machineries and equipments 6. Waste management 7. GMP 8. HACCP 9. QMS 10. Computer basics and ERP system followed by the organization 11. Training in Food Safety Standards and Regulations (as per FSSAI) (Mandatory)
Minimum Job Entry Age	18 Years
Last Reviewed On	29/07/2021
Next Review Date	29/07/2024
NSQC Approval Date	29/07/2021
Version	2.0

FIC/N0109: Prepare and maintain work area and process machineries for jam, jelly and ketchup processing

Description

This unit is about preparing and maintaining work area and process machineries for jam, jelly and ketchup processing

Elements and Performance Criteria

Prepare and maintain work area (for jam jelly and ketchup processing)

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

- PC1.** clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests
- PC2.** ensure that work area is safe and hygienic for food processing
- PC3.** dispose waste materials as per defined sops and industry requirements

Prepare and maintain process machineries and tools (for jam, jelly and ketchup processing)

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

- PC4.** check the working and performance of all machineries and tools used for the pickle making process such as fruit washer, peeler, fruit pulper, juice extractor, clarifier, filter, pasteurizer, steam jacketed kettles, packaging machines, etc.
- PC5.** clean the machineries and tools used with approved sanitizers following company specifications and SOPs
- PC6.** place the necessary tools required for process
- PC7.** attend to the minor repairs/ faults of all machines, if required

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization standards, process standards and procedures followed in the organisation
- KU2.** types of products produced by the organisation
- KU3.** code of business conduct
- KU4.** dress code to be followed
- KU5.** job responsibilities/duties and standard operating procedures
- KU6.** internal processes such as procurement, store management, inventory management, quality management and key contact points for query resolution
- KU7.** provision of wages, working hours and accident compensation as per organisation policy
- KU8.** food safety and hygiene standards followed
- KU9.** types of chemicals, materials and equipment required for cleaning and maintenance
- KU10.** cleaning process to disinfect equipment/ tools
- KU11.** supplier/manufacturers instructions related to cleaning and maintenance
- KU12.** knowledge of Food Safety Standards and Regulations (as per FSSAI)

KU13. knowledge of legal regulations pertaining to work place such as health and safety, recommended dosage for use of sanitizers, control of substances hazardous to health, handling/ storage/ disposal/ cautions of use of sanitizers and disinfectants, fire precautions, occurrences, hygiene practice, disposal of waste, environmental protection, etc.

Generic Skills (GS)

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

- GS1.** note the information communicated by the supervisor
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for ERP or as required by the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret the process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipments operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities with the supervisor
- GS12.** effectively communicate with team members
- GS13.** question the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** attentively listen and comprehend the information given by the speaker
- GS15.** communicate clearly with the supervisor and cross department teams on the issues faced during the process
- GS16.** analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issue
- GS17.** handle issues in case the supervisor is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received from the supervisor
- GS19.** organize raw materials and packaging materials required for all products following the instruction provided by the supervisor
- GS20.** plan and prioritize work based on instructions received from the supervisor
- GS21.** plan to utilize time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the supervisor in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support supervisor in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the supervisor for problem solving
- GS27.** apply domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** use common sense and make judgments on day to day basis

- GS29.** use reasoning skills to identify and resolve basic problems
- GS30.** use intuition to detect any potential problems which could arise during operations
- GS31.** use acquired knowledge of the process for identifying and handling issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare and maintain work area (for jam jelly and ketchup processing)</i>	18	32	-	-
PC1. clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests	10	15	-	-
PC2. ensure that work area is safe and hygienic for food processing	3	7	-	-
PC3. dispose waste materials as per defined sops and industry requirements	5	10	-	-
<i>Prepare and maintain process machineries and tools (for jam, jelly and ketchup processing)</i>	17	33	-	-
PC4. check the working and performance of all machineries and tools used for the pickle making process such as fruit washer, peeler, fruit pulper , juice extractor, clarifier, filter, pasteurizer, steam jacketed kettles, packaging machines, etc.	5	10	-	-
PC5. clean the machineries and tools used with approved sanitizers following company specifications and SOPs	5	10	-	-
PC6. place the necessary tools required for process	2	3	-	-
PC7. attend to the minor repairs/ faults of all machines, if required	5	10	-	-
NOS Total	35	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N0109
NOS Name	Prepare and maintain work area and process machineries for jam,jelly and ketchup processing
Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2024
Deactivation Date	29/07/2024
NSQ Clearance Date	29/07/2021

FIC/N0110: Prepare for production of jam, jelly and ketchup

Description

This OS unit is about preparation for production of various fruits and vegetables products

Elements and Performance Criteria

Provide support in production planning (for jam, jelly & ketchup processing)

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

- PC1.** read and understand the production order from the supervisor
- PC2.** check the availability of raw materials, packaging materials, equipment and manpower
- PC3.** support in planning production sequence by: grouping products from types of fruits (pulpy fruits, citrus fruits etc), selecting raw materials that do not impact the quality of the other avoiding CIP after each product using the same equipment and machinery for various products planning maximum capacity utilization of machineries considering the process time for each product planning efficient utilization of resources/manpower prioritizing urgent orders
- PC4.** calculate the batch size based on the production order and machine capacity
- PC5.** calculate the raw material requirement (considering the process loss) to produce the required quantity of finished product(s)
- PC6.** calculate the raw materials (including ingredients, if any), packaging materials and manpower requirement for completing the order

Plan equipment utilization (for jam, jelly & ketchup processing)

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

- PC7.** ensure the working and performance of each equipment required for process
- PC8.** calculate the process time for effective utilization of machineries
- PC9.** plan batch size considering full capacity utilization of machineries
- PC10.** plan to utilize machineries for multiple products without affecting the quality of the finished products, and to optimize production and saving energy
- PC11.** allot responsibilities/ work to the assistants and helpers

Organize and check equipments and raw material (for jam, jelly and ketchup processing)

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

- PC12.** refer to the process chart/ product flow chart/formulation chart for product(s) produced
- PC13.** weigh the raw materials required for the batch
- PC14.** check the conformance of raw material quality to company standards, through physical analysis and by referring to the quality analysis report from the supplier / internal lab analysis report
- PC15.** ensure working and performance of required machineries and tools
- PC16.** keep the tools accessible to attend repairs/faults in case of breakdown

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization standards, process standards and procedures followed in the organisation

- KU2.** types of products produced by the organisation
- KU3.** code of business conduct
- KU4.** dress code to be followed
- KU5.** job responsibilities/duties and standard operating procedures
- KU6.** internal processes such as procurement, store management, inventory management, quality management and key contact points for query resolution
- KU7.** provision of wages, working hours and accident compensation as per organisation policy
- KU8.** food safety and hygiene standards followed
- KU9.** types of raw materials (various fruits and vegetable) and products obtained from each of the raw materials
- KU10.** types of machineries used in processing and other machineries used in the organisation
- KU11.** maintenance of process equipments
- KU12.** supplier/manufacturers instructions related to machineries
- KU13.** process for producing each product
- KU14.** basic mathematics
- KU15.** calculation of raw material for required quantity of finished product
- KU16.** quality parameters, basic food microbiology and quality assessment based on physical parameters KB9. food safety and hygiene
- KU17.** GMP
- KU18.** HACCP
- KU19.** HACCP

Generic Skills (GS)

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

- GS1.** note the information communicated by the supervisor
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for ERP or as required by the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret the process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipments operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities with the supervisor
- GS12.** effectively communicate with team members
- GS13.** question the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** attentively listen and comprehend the information given by the speaker
- GS15.** communicate clearly with the supervisor and cross department teams on the issues faced during the process

- GS16.** analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issue
- GS17.** handle issues in case the supervisor is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received from the supervisor
- GS19.** organize raw materials and packaging materials required for all products following the instruction provided by the supervisor
- GS20.** plan and prioritize work based on instructions received from the supervisor
- GS21.** plan to utilise time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the supervisor in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support supervisor in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the supervisor for problem solving
- GS27.** apply domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** use common sense and make judgments on day to day basis
- GS29.** use reasoning skills to identify and resolve basic problems
- GS30.** use intuition to detect any potential problems which could arise during operations
- GS31.** use acquired knowledge of the process for identifying and handling issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Provide support in production planning (for jam, jelly & ketchup processing)</i>	17	28	-	-
PC1. read and understand the production order from the supervisor	4	6	-	-
PC2. check the availability of raw materials, packaging materials, equipment and manpower	2	3	-	-
PC3. support in planning production sequence by: grouping products from types of fruits (pulpy fruits, citrus fruits etc), selecting raw materials that do not impact the quality of the other avoiding CIP after each product using the same equipment and machinery for various products planning maximum capacity utilization of machineries considering the process time for each product planning efficient utilization of resources/manpower prioritizing urgent orders	5	10	-	-
PC4. calculate the batch size based on the production order and machine capacity	2	3	-	-
PC5. calculate the raw material requirement (considering the process loss) to produce the required quantity of finished product(s)	2	3	-	-
PC6. calculate the raw materials (including ingredients, if any), packaging materials and manpower requirement for completing the order	2	3	-	-
<i>Plan equipment utilization (for jam, jelly & ketchup processing)</i>	7.5	17.5	-	-
PC7. ensure the working and performance of each equipment required for process	2	5	-	-
PC8. calculate the process time for effective utilization of machineries	2	5	-	-
PC9. plan batch size considering full capacity utilization of machineries	1	2	-	-
PC10. plan to utilize machineries for multiple products without affecting the quality of the finished products, and to optimize production and saving energy	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. allot responsibilities/ work to the assistants and helpers	1.5	3.5	-	-
<i>Organize and check equipments and raw material (for jam, jelly and ketchup processing)</i>	10.5	19.5	-	-
PC12. refer to the process chart/ product flow chart/formulation chart for product(s) produced	1	2	-	-
PC13. weigh the raw materials required for the batch	1	4	-	-
PC14. check the conformance of raw material quality to company standards, through physical analysis and by referring to the quality analysis report from the supplier / internal lab analysis report	4	6	-	-
PC15. ensure working and performance of required machineries and tools	4	6	-	-
PC16. keep the tools accessible to attend repairs/faults in case of breakdown	0.5	1.5	-	-
NOS Total	35	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N0110
NOS Name	Prepare for production of jam, jelly and ketchup
Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2024
Deactivation Date	29/07/2024
NSQF Clearance Date	29/07/2021

FIC/N0111: Produce jam, jelly and ketchup

Description

This unit is about production of jam, jelly and ketchup using various machineries as per the specifications and standards of the organization

Elements and Performance Criteria

Receive, wash and sort fruits and vegetables

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

- PC1.** receive fruits and vegetables (tomato) from the supplier/vendor, check its weight and check the quality of fruits and vegetables through physical parameters such as appearance, colour, texture, maturity, etc.
- PC2.** open valves or start pump to fill water in the washing tank and control water level, dump fruits and vegetables in the washing tank for washing
- PC3.** switch on agitator of revolving screens/blades to immerse fruits and vegetables in water to remove dirt, soil and other impurities
- PC4.** start the ladder conveyor to lift fruits and vegetables from the washing tank and transfer to the washing line conveyor
- PC5.** open valves of the high pressure spraying system for fresh water and adjust pressure to spray water on fruits and vegetables on washing line conveyor for rinsing
- PC6.** adjust controls to transfer washed fruit and vegetables to sorting/inspecting line, start and adjust speed of sorting/inspecting line conveyor to visually inspect and manually remove damaged, blemished and rotten fruits and vegetables

Peel, cut, deseed/de-stone fruits and vegetables

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

- PC7.** dump sorted fruits and vegetables in the peeler or corer (depending on the type of fruits), start machine, adjust speed to remove the peel or core of fruits or turn valves to introduce steam and adjust controls to maintain pressure for steam peeling fruits
- PC8.** open valve or pump water or open spraying system to wash the peeled fruits and vegetables, observe fruits and vegetables emerging from peeling /coring machine to ensure removal of peel/core
- PC9.** cut fruits and vegetables manually or load the fruits and vegetables in the chopper/cutter/slicer machine, adjust controls to cut fruits to required size, start machine, collect sliced fruits and vegetables from the discharge chute
- PC10.** in case of mangoes, start conveyor and control speed to allow washed mangoes to pass through tip cutting line, cut the tip of the fruit manually, control conveyor speed to dump the tip cut mangoes into de-stoner machine to remove seed and peel
- PC11.** control speed of waste disposal conveyor to dispose waste following SOP

Pulp fruits and vegetables, extract fruit juice

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

- PC12.** adjust and maintain speed of pulper conveyor to allow the fruits and vegetables to pass through the pulper cum finisher/ pulper refiner machine for pulping of fruits and vegetables and sieving pulp to required fineness, adjust position of discharge outlet to collect refined pulp in collection tank, check collected pulp to ensure it is free from seeds and fiber
- PC13.** replace damaged or clogged filter screen of pulper cum finisher/ pulper refiner machine

- PC14.** adjust controls of hydraulic press machine to extract juice, start machine and control speed/rotation, start conveyor to allow cut/grated fruit to pass through hydraulic press/juice extraction machine to extract juice, remove skin, seeds and fiber through filter sieves
- PC15.** change sieves or clean sieves of hydraulic press/juice extraction machine to avoid clogging
- PC16.** open valves or start pump to allow extracted juice through finer sieves to remove very small and undesirable particles and collect filtered juice in collection tanks
- PC17.** check the quality of fruit pulp/ fruit juice through physical parameters such as appearance, colour, odour, etc. sample and transfer to quality lab for analysis

Prepare jam and jelly

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

- PC18.** pump measured quantity of fruit pulp for preparing jam and fruit juice for preparing jelly (pulp of various fruit as per formulation for preparing mixed fruit jam) from holding tank/ container into cooking kettle/tank
- PC19.** set temperature, pressure, stirrer speed, etc. of the cooking kettle/tank, set mixing time, cooking time, cooking temperature, etc, open valves to admit steam through the kettle or light burner to heat fruit pulp / fruit juice to require temperature and thickness with continuous stirring to avoid sticking/scorching or stir manually
- PC20.** monitor pressure and temperature gauge and adjust controls to achieve specified pressure and temperature to cook fruit pulp / fruit juice
- PC21.** open valve or start pump to transfer measured quantity of water into pre-mixing tank, set speed of stirrer of pre-mixing tank to stir water, measure specified quantity of pectin following formulation and add to water in the pre-mixing tank, control speed of mixer for uniform mixing of pectin in water to prepare pectin solution
- PC22.** measure ingredients such as sugar, pectin solution, flavour, colour etc for batch referring to the formulation chart and add in sequence into pulp/juice in kettle following sop and continue cooking along with stirring
- PC23.** observe the cooking process and check the product in refractometer to ensure completeness of cooking process
- PC24.** check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to quality lab for analysis and conformance to standards
- PC25.** start pump or open valve to transfer product into filling tank of the packaging machine or tilt kettle and scoop contents out of kettle into container, manually transfer into hopper of the filling machine for packaging or manually fill hot product in packaging containers

Prepare ketchup

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

- PC26.** pump measured quantity of tomato pulp/puree from holding tank/ container into cooking kettle
- PC27.** set temperature, pressure, stirrer speed, etc. of the cooking kettle, set mixing time, cooking time, cooking temperature etc, open valves to admit steam through the kettle or light burner to heat tomato paste to required temperature and thickness with continuous stirring to avoid sticking /scorching or stir manually
- PC28.** monitor pressure and temperature gauge and adjust controls to achieve specified temperature to cook tomato paste
- PC29.** measure ingredients such as sugar, salt, spice powder, vinegar, etc. required for batch, by referring to the formulation chart and add as per sequence into the tomato pulp/puree in kettle following sop and continue cooking

- PC30.** observe cooking process and check the quality of cooked product through feel, consistency, test the viscosity using viscometer to ensure completeness of the cooking process
- PC31.** check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to quality lab for analysis and conformance to standards
- PC32.** start pump or open valve to transfer product into filling tank of the packaging machine or tilt kettle or scoop contents out of kettle into container, manually transfer into hopper of the filling machine for packaging or manually filling hot product in packaging containers

Fill and pack jam, jelly and ketchup

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

- PC33.** open valves or start pump to transfer hot product into the packaging machine to pack jam/jelly
- PC34.** load packing materials such as glass bottle, plastic bottle, pouches, etc. and sealing materials such as lid, closures, etc. in packaging machines
- PC35.** set packaging machine for filling volume, speed, etc., start automatic packaging machine for forming, washing bottles, filling, sealing container (or) fill measured quantity of hot product in packaging containers, place lid and close manually/mechanically
- PC36.** start machine to fill hot product in the container, check weight of packed product periodically to ensure its conformance to standards
- PC37.** start cooling line conveyor and control speed to allow packed containers to pass through the cooling tunnel, set controls of water temperature, pressure etc. and start machine to spray water on containers to cool and set product (setting in case of jam and jelly) or arrange filled jam/jelly containers in rack and allow to stand for specified time following SOP to cool and set product
- PC38.** start drying line conveyor and control speed to allow the cooled bottles to pass through the drying tunnel, set controls of air temperature, air flow rate etc. and start machine to dry bottle before labelling
- PC39.** load labels in labelling machine, set date coding machine for batch number, date of manufacture, date of expiry, etc., start labelling line conveyor and control speed to allow packed container to pass through labelling and date coding machine for labelling and date coding packed products
- PC40.** place the packed and labelled products in cartons and transfer to storage area and store maintaining storage conditions following SOP
- PC41.** report discrepancies/concerns to department supervisor for immediate action

Carry out post production cleaning and regular maintenance of equipments

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

- PC42.** clean the work area, machineries, equipment and tools using approved cleaning agents and sanitizers
- PC43.** attend minor repairs/faults of all machines (if any)
- PC44.** ensure periodic (daily/weekly/monthly/quarterly/half yearly/annual) maintenance of all machines and equipment following the SOP or following suppliers instructions/manuals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization standards, process standards and procedures followed in the organisation
- KU2.** types of products produced by the organisation

- KU3.** code of business conduct
- KU4.** dress code to be followed
- KU5.** job responsibilities/duties and standard operating procedures
- KU6.** internal processes such as procurement, store management, inventory management, quality management and key contact points for query resolution
- KU7.** provision of wages, working hours as per organisation policy
- KU8.** food safety and hygiene standards followed
- KU9.** types and varieties of raw materials (fruits and vegetable) and products produced from each raw material
- KU10.** production process, process parameters and product formulation for production of various products
- KU11.** types of machineries used in processing and machineries used in the organisation
- KU12.** handling all process machineries
- KU13.** maintenance of machineries, equipments and tools
- KU14.** basic mathematics
- KU15.** procedures for disposal of waste from agricultural produce
- KU16.** quality parameters, basic food microbiology and quality assessment based on physical parameters
- KU17.** types and category of packaging materials, packaging machineries
- KU18.** storage procedures for raw materials, packaging materials and finished goods
- KU19.** cleaning procedures like CIP and COP
- KU20.** knowledge of sanitizers and disinfectants and their handling and storing methods
- KU21.** food laws and regulations on product, packaging and labelling
- KU22.** food safety and hygiene
- KU23.** GMP
- KU24.** HACCP

Generic Skills (GS)

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

- GS1.** note the information communicated by the supervisor
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for online ERP or as per applicability in the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret and process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipments operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities with the supervisor

- GS12.** effectively communicate with the team members
- GS13.** question the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** attentively listen and comprehend the information given by the speaker
- GS15.** communicate clearly with the supervisor and cross department teams on the issues faced during the process
- GS16.** analyze critical points in day to day tasks through experience and observation and identify control measures to solve the issue
- GS17.** handle issues in case the supervisor is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received from the supervisor
- GS19.** organize raw materials and packaging materials required for all products following the instruction provided by the supervisor
- GS20.** plan and prioritize the work based on the instructions received from the supervisor
- GS21.** plan to utilise time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the supervisor in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support supervisor in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the supervisor for problem solving
- GS27.** apply domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** use common sense and make judgments on day to day basis
- GS29.** use reasoning skills to identify and resolve basic problems
- GS30.** use intuition to detect any potential problems which could arise during operations
- GS31.** use acquired knowledge of the process for identifying and handling issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Receive, wash and sort fruits and vegetables</i>	4.5	5.5	-	-
PC1. receive fruits and vegetables (tomato) from the supplier/vendor, check its weight and check the quality of fruits and vegetables through physical parameters such as appearance, colour, texture, maturity, etc.	1.5	1.5	-	-
PC2. open valves or start pump to fill water in the washing tank and control water level, dump fruits and vegetables in the washing tank for washing	0.5	0.5	-	-
PC3. switch on agitator of revolving screens/blades to immerse fruits and vegetables in water to remove dirt, soil and other impurities	0.5	0.5	-	-
PC4. start the ladder conveyor to lift fruits and vegetables from the washing tank and transfer to the washing line conveyor	0.5	0.5	-	-
PC5. open valves of the high pressure spraying system for fresh water and adjust pressure to spray water on fruits and vegetables on washing line conveyor for rinsing	0.5	0.5	-	-
PC6. adjust controls to transfer washed fruit and vegetables to sorting/inspecting line, start and adjust speed of sorting/inspecting line conveyor to visually inspect and manually remove damaged, blemished and rotten fruits and vegetables	1	2	-	-
<i>Peel, cut, deseed/de-stone fruits and vegetables</i>	3.5	6.5	-	-
PC7. dump sorted fruits and vegetables in the peeler or corer (depending on the type of fruits), start machine , adjust speed to remove the peel or core of fruits or turn valves to introduce steam and adjust controls to maintain pressure for steam peeling fruits	1	2	-	-
PC8. open valve or pump water or open spraying system to wash the peeled fruits and vegetables, observe fruits and vegetables emerging from peeling /coring machine to ensure removal of peel/core	0.5	0.5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. cut fruits and vegetables manually or load the fruits and vegetables in the chopper/cutter/slicer machine, adjust controls to cut fruits to required size, start machine, collect sliced fruits and vegetables from the discharge chute	1	2	-	-
PC10. in case of mangoes, start conveyor and control speed to allow washed mangoes to pass through tip cutting line, cut the tip of the fruit manually, control conveyor speed to dump the tip cut mangoes into de-stoner machine to remove seed and peel	0.5	1.5	-	-
PC11. control speed of waste disposal conveyor to dispose waste following SOP	0.5	0.5	-	-
<i>Pulp fruits and vegetables, extract fruit juice</i>	3.5	6.5	-	-
PC12. adjust and maintain speed of pulper conveyor to allow the fruits and vegetables to pass through the pulper cum finisher/ pulper refiner machine for pulping of fruits and vegetables and sieving pulp to required fineness, adjust position of discharge outlet to collect refined pulp in collection tank, check collected pulp to ensure it is free from seeds and fiber	0.5	1.5	-	-
PC13. replace damaged or clogged filter screen of pulper cum finisher/ pulper refiner machine	0.5	0.5	-	-
PC14. adjust controls of hydraulic press machine to extract juice, start machine and control speed/rotation, start conveyor to allow cut/grated fruit to pass through hydraulic press/juice extraction machine to extract juice, remove skin, seeds and fiber through filter sieves	0.5	1.5	-	-
PC15. change sieves or clean sieves of hydraulic press/juice extraction machine to avoid clogging	0.5	0.5	-	-
PC16. open valves or start pump to allow extracted juice through finer sieves to remove very small and undesirable particles and collect filtered juice in collection tanks	0.5	1.5	-	-
PC17. check the quality of fruit pulp/ fruit juice through physical parameters such as appearance, colour, odour, etc. sample and transfer to quality lab for analysis	1	1	-	-
<i>Prepare jam and jelly</i>	8.5	16.5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. pump measured quantity of fruit pulp for preparing jam and fruit juice for preparing jelly (pulp of various fruit as per formulation for preparing mixed fruit jam) from holding tank/ container into cooking kettle/tank	1	2	-	-
PC19. set temperature, pressure, stirrer speed, etc. of the cooking kettle/tank, set mixing time, cooking time, cooking temperature, etc, open valves to admit steam through the kettle or light burner to heat fruit pulp / fruit juice to require temperature and thickness with continuous stirring to avoid sticking/scorching or stir manually	2	3	-	-
PC20. monitor pressure and temperature gauge and adjust controls to achieve specified pressure and temperature to cook fruit pulp / fruit juice	1	2	-	-
PC21. open valve or start pump to transfer measured quantity of water into pre-mixing tank, set speed of stirrer of pre-mixing tank to stir water, measure specified quantity of pectin following formulation and add to water in the pre-mixing tank, control speed of mixer for uniform mixing of pectin in water to prepare pectin solution	1	2	-	-
PC22. measure ingredients such as sugar, pectin solution, flavour, colour etc for batch referring to the formulation chart and add in sequence into pulp/juice in kettle following sop and continue cooking along with stirring	1	2	-	-
PC23. observe the cooking process and check the product in refractometer to ensure completeness of cooking process	1	2	-	-
PC24. check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to quality lab for analysis and conformance to standards	1	2	-	-
PC25. start pump or open valve to transfer product into filling tank of the packaging machine or tilt kettle and scoop contents out of kettle into container, manually transfer into hopper of the filling machine for packaging or manually fill hot product in packaging containers	0.5	1.5	-	-
<i>Prepare ketchup</i>	9	16	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. pump measured quantity of tomato pulp/puree from holding tank/ container into cooking kettle	0.5	1.5	-	-
PC27. set temperature, pressure, stirrer speed, etc. of the cooking kettle, set mixing time, cooking time, cooking temperature etc, open valves to admit steam through the kettle or light burner to heat tomato paste to required temperature and thickness with continuous stirring to avoid sticking /scorching or stir manually	2	3	-	-
PC28. monitor pressure and temperature gauge and adjust controls to achieve specified temperature to cook tomato paste	1.5	2.5	-	-
PC29. measure ingredients such as sugar, salt, spice powder, vinegar, etc. required for batch, by referring to the formulation chart and add as per sequence into the tomato pulp/puree in kettle following sop and continue cooking	1.5	2.5	-	-
PC30. observe cooking process and check the quality of cooked product through feel, consistency, test the viscosity using viscometer to ensure completeness of the cooking process	1	3	-	-
PC31. check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to quality lab for analysis and conformance to standards	2	2	-	-
PC32. start pump or open valve to transfer product into filling tank of the packaging machine or tilt kettle or scoop contents out of kettle into container, manually transfer into hopper of the filling machine for packaging or manually filling hot product in packaging containers	0.5	1.5	-	-
<i>Fill and pack jam, jelly and ketchup</i>	4.5	10.5	-	-
PC33. open valves or start pump to transfer hot product into the packaging machine to pack jam/jelly	0.5	0.5	-	-
PC34. load packing materials such as glass bottle, plastic bottle, pouches, etc. and sealing materials such as lid, closures, etc. in packaging machines	0.5	0.5	-	-
PC35. set packaging machine for filling volume, speed, etc., start automatic packaging machine for forming, washing bottles, filling, sealing container (or) fill measured quantity of hot product in packaging containers , place lid and close manually/ mechanically	0.5	1.5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC36. start machine to fill hot product in the container, check weight of packed product periodically to ensure its conformance to standards	0.5	1.5	-	-
PC37. start cooling line conveyor and control speed to allow packed containers to pass through the cooling tunnel, set controls of water temperature, pressure etc. and start machine to spray water on containers to cool and set product (setting in case of jam and jelly) or arrange filled jam/jelly containers in rack and allow to stand for specified time following SOP to cool and set product	0.5	1.5	-	-
PC38. start drying line conveyor and control speed to allow the cooled bottles to pass through the drying tunnel, set controls of air temperature, air flow rate etc. and start machine to dry bottle before labelling	0.5	1.5	-	-
PC39. load labels in labelling machine, set date coding machine for batch number, date of manufacture, date of expiry, etc., start labelling line conveyor and control speed to allow packed container to pass through labelling and date coding machine for labelling and date coding packed products	0.5	1.5	-	-
PC40. place the packed and labelled products in cartons and transfer to storage area and store maintaining storage conditions following SOP	0.5	1.5	-	-
PC41. report discrepancies/concerns to department supervisor for immediate action	0.5	0.5	-	-
<i>Carry out post production cleaning and regular maintenance of equipments</i>	1.5	3.5	-	-
PC42. clean the work area, machineries, equipment and tools using approved cleaning agents and sanitizers	0.5	1.5	-	-
PC43. attend minor repairs/faults of all machines (if any)	0.5	1.5	-	-
PC44. ensure periodic (daily/weekly/monthly/quarterly/half yearly/annual) maintenance of all machines and equipment following the SOP or following suppliers instructions/manuals	0.5	0.5	-	-
NOS Total	35	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N0111
NOS Name	Produce jam, jelly and ketchup
Sector	Food Processing
Sub-Sector	Fruits and Vegetables, Bread and Bakery, Packaged Goods
Occupation	GENERIC
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/09/2021
Next Review Date	29/06/2024
Deactivation Date	29/06/2024
NSQ Clearance Date	30/09/2021

FIC/N0112: Complete documentation and record keeping related to production of jam, jelly and ketchup

Description

This unit is about documenting and maintaining records of raw materials, process and finished products related to production of jam, jelly and ketchup

Elements and Performance Criteria

Document and maintain records of raw materials related to production of jam, jelly and ketchup

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

- PC1.** document and maintain records of details of raw materials and packaging materials such as name or raw materials, type and variety, vendor/supplier details, grown area, grown season, quantity, receiving date, supplier details, receiving date/ date of manufacture, expiry date, supplier quality document, quality parameters of all raw materials, internal quality analysis report, etc. as per organisation standards
- PC2.** document and maintain record of observations (if any) related to raw materials and packaging materials
- PC3.** load the raw materials details in ERP for future reference
- PC4.** verify the documents and track from finished product to raw materials, in case of quality concerns and during quality management system audits

Document and maintain records of production and process parameters related to production of jam, jelly and ketchup

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

- PC5.** document and maintain records of production plan with details such as the product details, production sequence, equipments and machinery details, efficiency and capacity utilization of equipment
- PC6.** document and maintain records of process details such as type of raw material used, process parameters (temperature, time, pressure, etc. as applicable) for entire production and packaging in process chart or production log for all products produced
- PC7.** document and maintain records of batch size, production yield, wastage of raw materials, energy utilization and final products produced
- PC8.** document and maintain record of observations (if any) or deviations related to process and production
- PC9.** load the production plan and process details in ERP for future reference
- PC10.** verify documents and track from finished product to ingredients, in case of quality concerns and for quality management system audits

Document and maintain records of the finished products related to production of jam, jelly and ketchup

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

- PC11.** document and maintain records of the types of finished products produced
- PC12.** document and maintain records of the finished products details such as batch number, time of packing, date of manufacture, date of expiry, other label details, primary, secondary and tertiary packaging materials for all finished products, storage conditions, etc. as per organisation standards
- PC13.** document and maintain record of observations or deviations (if any) related to finished products

- PC14.** load the finished product details in ERP for future reference
- PC15.** verify the documents and track from finished product to raw materials (in case of quality concerns) and for quality management system audits

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization standards, process standards and procedures followed in the organisation
- KU2.** types of products produced by the organisation
- KU3.** code of business conduct
- KU4.** dress code to be followed
- KU5.** job responsibilities/duties and standard operating procedures
- KU6.** internal processes such as procurement, store management, inventory management, quality management and key contact points for query resolution
- KU7.** provision of wages, working hours as per organisation policy
- KU8.** food safety and hygiene standards followed
- KU9.** documentation system followed in the organization such as production chart, process chart and finished products chart
- KU10.** details to be recorded on raw materials and finished products
- KU11.** details to be recorded and maintained on production plan and process parameters
- KU12.** methods to document and maintain records on observations (if any) related to raw materials, process and finished products
- KU13.** methods to track back the record from finished product to raw material
- KU14.** basic computer knowledge
- KU15.** entering details in the ERP system followed by the organisation

Generic Skills (GS)

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

- GS1.** note the information communicated by the supervisor
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for online ERP or as per applicability in the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret and process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipments operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities with the supervisor
- GS12.** effectively communicate with the team members

- GS13.** question the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** attentively listen and comprehend the information given by the speaker
- GS15.** communicate clearly with the supervisor and cross department teams on the issues faced during process
- GS16.** analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issue
- GS17.** handle issues in case the supervisor is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received from the supervisor
- GS19.** organize raw materials and packaging materials required for all products following the instruction provided by the supervisor
- GS20.** plan and prioritize the work based on the instructions received from the supervisor
- GS21.** plan to utilise time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the supervisor in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support supervisor in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the supervisor for problem solving
- GS27.** apply domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** use common sense and make judgments on day to day basis
- GS29.** use reasoning skills to identify and resolve basic problems
- GS30.** use intuition to detect any potential problems which could arise during operations
- GS31.** use acquired knowledge of the process for identifying and handling issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Document and maintain records of raw materials related to production of jam, jelly and ketchup</i>	15	10	-	-
PC1. document and maintain records of details of raw materials and packaging materials such as name or raw materials, type and variety, vendor/supplier details, grown area, grown season, quantity, receiving date, supplier details, receiving date/ date of manufacture, expiry date, supplier quality document, quality parameters of all raw materials, internal quality analysis report, etc. as per organisation standards	6	4	-	-
PC2. document and maintain record of observations (if any) related to raw materials and packaging materials	3	2	-	-
PC3. load the raw materials details in ERP for future reference	3	2	-	-
PC4. verify the documents and track from finished product to raw materials, in case of quality concerns and during quality management system audits	3	2	-	-
<i>Document and maintain records of production and process parameters related to production of jam, jelly and ketchup</i>	30	20	-	-
PC5. document and maintain records of production plan with details such as the product details, production sequence, equipments and machinery details, efficiency and capacity utilization of equipment	6	4	-	-
PC6. document and maintain records of process details such as type of raw material used, process parameters (temperature, time, pressure, etc. as applicable) for entire production and packaging in process chart or production log for all products produced	9	6	-	-
PC7. document and maintain records of batch size, production yield, wastage of raw materials, energy utilization and final products produced	6	4	-	-
PC8. document and maintain record of observations (if any) or deviations related to process and production	3	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. load the production plan and process details in ERP for future reference	3	2	-	-
PC10. verify documents and track from finished product to ingredients, in case of quality concerns and for quality management system audits	3	2	-	-
<i>Document and maintain records of the finished products related to production of jam, jelly and ketchup</i>	15	10	-	-
PC11. document and maintain records of the types of finished products produced	2	1	-	-
PC12. document and maintain records of the finished products details such as batch number, time of packing, date of manufacture, date of expiry, other label details, primary, secondary and tertiary packaging materials for all finished products, storage conditions, etc. as per organisation standards	4	3	-	-
PC13. document and maintain record of observations or deviations (if any) related to finished products	3	2	-	-
PC14. load the finished product details in ERP for future reference	3	2	-	-
PC15. verify the documents and track from finished product to raw materials (in case of quality concerns) and for quality management system audits	3	2	-	-
NOS Total	60	40	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N0112
NOS Name	Complete documentation and record keeping related to production of jam, jelly and ketchup
Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2024
Deactivation Date	29/07/2024
NSQ Clearance Date	29/07/2021

FIC/N9001: Ensure food safety, hygiene and sanitation for processing food products

Description

This unit is about maintaining food safety, hygiene and sanitation in work area and processing unit for processing food products

Elements and Performance Criteria

Perform safety and sanitation related functions (for processing food products)

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

- PC1.** comply with food safety and hygiene procedures followed in the organization
- PC2.** ensure personal hygiene by use of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.
- PC3.** ensure hygienic production of food by inspecting raw materials, ingredients, finished products etc. for compliance to physical, chemical and microbiological parameters
- PC4.** pack products in appropriate packaging materials, label and store them in designated area, free from pests, flies and infestations
- PC5.** clean, maintain and monitor food processing equipment periodically, using it only for the specified purpose
- PC6.** use safety equipment such as fire extinguisher, eye wash unit, first aid kit when required
- PC7.** follow housekeeping practices by having designated area for machines/tools
- PC8.** follow industry standards like GMP, HACCP and product recall process
- PC9.** attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them
- PC10.** Identify, document and report problems such as rodents and pests to management
- PC11.** conduct workplace checklist audit before and after work to ensure safety and hygiene
- PC12.** document and maintain raw material, packaging material, process and finished products for the credibility and effectiveness of the food safety control system

Apply food safety practices (for processing food products)

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

- PC13.** determine the quality of food using criteria such as odour, appearance, taste and best before date, and take immediate measures to prevent spoilage
- PC14.** store raw materials, finished products and allergens separately to prevent cross contamination
- PC15.** label raw materials and finished products and store them in different storage areas according to safe food practices
- PC16.** follow stock rotation based on FEFO/FIFO

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organization standards, process standards and procedures followed in the organisation
- KU2.** types of products produced by the organisation
- KU3.** code of business conduct

- KU4.** dress code to be followed
- KU5.** job responsibilities/duties and standard operating procedures
- KU6.** internal processes such as procurement, store management, inventory management, quality management and key contact points for query resolution
- KU7.** provision of wages, working hours as per organisation policy
- KU8.** food safety and hygiene standards followed
- KU9.** possible physical, chemical and biological hazards and methods of prevention of various hazards
- KU10.** personal hygiene requirement
- KU11.** different types of sanitizers used for process area, equipment and the procedure to use them
- KU12.** knowledge on food safety standards and regulations (as per fssai)
- KU13.** quality parameters and quality assessment based on physical parameters, basic food microbiology
- KU14.** labelling/marketing requirements for raw materials, finished goods, stored materials, packaging materials and their designated storage area
- KU15.** cleaning and sanitation of equipment and work area
- KU16.** CIP and COP methods and procedures
- KU17.** storage norms for raw materials, packaging material and finished products
- KU18.** stock rotation of ingredients and finished products based on FEFO/FIFO
- KU19.** method of maintaining safety check lists for all machineries
- KU20.** GHP
- KU21.** GMP
- KU22.** HACCP

Generic Skills (GS)

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

- GS1.** note the information communicated by the supervisor
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for online ERP or as per applicability in the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret and process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipment operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities with the supervisor
- GS12.** effectively communicate with the team members
- GS13.** question the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** attentively listen and comprehend the information given by the speaker

- GS15.** communicate clearly with the supervisor and cross department teams on the issues faced during process
- GS16.** analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issue
- GS17.** handle issues in case the supervisor is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received from the supervisor
- GS19.** organize raw materials and packaging materials required for all products following the instruction provided by the supervisor
- GS20.** plan and prioritize the work based on the instructions received from the supervisor
- GS21.** plan to utilise time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the supervisor in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support supervisor in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the supervisor for problem solving
- GS27.** apply domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** use common sense and make judgments on day to day basis
- GS29.** use reasoning skills to identify and resolve basic problems
- GS30.** use intuition to detect any potential problems which could arise during operations
- GS31.** use acquired knowledge of the process for identifying and handling issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform safety and sanitation related functions (for processing food products)</i>	25	50	-	-
PC1. comply with food safety and hygiene procedures followed in the organization	2	3	-	-
PC2. ensure personal hygiene by use of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.	1	5	-	-
PC3. ensure hygienic production of food by inspecting raw materials, ingredients, finished products etc. for compliance to physical, chemical and microbiological parameters	2	3	-	-
PC4. pack products in appropriate packaging materials, label and store them in designated area, free from pests, flies and infestations	4	6	-	-
PC5. clean, maintain and monitor food processing equipment periodically, using it only for the specified purpose	2	3	-	-
PC6. use safety equipment such as fire extinguisher, eye wash unit, first aid kit when required	4	6	-	-
PC7. follow housekeeping practices by having designated area for machines/tools	2	3	-	-
PC8. follow industry standards like GMP, HACCP and product recall process	4	6	-	-
PC9. attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them	1	4	-	-
PC10. Identify, document and report problems such as rodents and pests to management	1	4	-	-
PC11. conduct workplace checklist audit before and after work to ensure safety and hygiene	1	4	-	-
PC12. document and maintain raw material, packaging material, process and finished products for the credibility and effectiveness of the food safety control system	1	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Apply food safety practices (for processing food products)</i>	10	15	-	-
PC13. determine the quality of food using criteria such as odour, appearance, taste and best before date, and take immediate measures to prevent spoilage	2	3	-	-
PC14. store raw materials, finished products and allergens separately to prevent cross contamination	2	3	-	-
PC15. label raw materials and finished products and store them in different storage areas according to safe food practices	2	3	-	-
PC16. follow stock rotation based on FEFO/FIFO	4	6	-	-
NOS Total	35	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9001
NOS Name	Ensure food safety, hygiene and sanitation for processing food products
Sector	Food Processing
Sub-Sector	Fruits and Vegetables
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/09/2021
Next Review Date	30/07/2024
Deactivation Date	30/07/2024
NSQF Clearance Date	30/09/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

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/N0109.Prepare and maintain work area and process machineries for jam,jelly and ketchup processing	35	65	-	-	100	15
FIC/N0110.Prepare for production of jam, jelly and ketchup	35	65	-	-	100	20
FIC/N0111.Produce jam, jelly and ketchup	35	65	-	-	100	25
FIC/N0112.Complete documentation and record keeping related to production of jam, jelly and ketchup	60	40	-	-	100	15
FIC/N9001.Ensure food safety, hygiene and sanitation for processing food products	35	65	-	-	100	25
Total	200	300	-	-	500	100

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
CIP	Clean In Place
COP	Clean Out Of Place
ERP	Enterprise Resource Planning
FIFO	First In First Out
FEFO	First Expiry First Out
FSSAI	Food Safety and Standards Authority of India
GMP	Good Manufacturing Practices
GHP	Good Hygiene Practices
HACCP	Hazard Analysis and Critical Control Point

Glossary

Sector	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.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	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.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	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.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	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.
Scope	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.
Knowledge and Understanding (KU)	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.

Organisational Context	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.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	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.
Electives	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.
Options	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.