



Cottage Cheese Maker

QP Code: FIC/Q2005

Version: 2.0

NSQF Level: 3

Food Industry Capacity & Skill Initiative || Shriram Bharatiya Kala kendra, 3rd floor, 1, Copernicus Marg, Mandi House, New Delhi
Delhi 110001

Qualification Pack

Contents

FIC/Q2005: Cottage Cheese Maker	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
FIC/N2017: Prepare and maintain work area and process machineries for production of cottage cheese	5
FIC/N2018: Production of cottage cheese (paneer)	10
FIC/N2019: Complete documentation and record keeping related to production of cottage cheese ...	19
FIC/N9001: Ensure food safety, hygiene and sanitation for processing food products	25
Assessment Guidelines and Weightage	30
<i>Assessment Guidelines</i>	30
<i>Assessment Weightage</i>	31
Acronyms	32
Glossary	33

Qualification Pack

FIC/Q2005: Cottage Cheese Maker

Brief Job Description

A Cottage Cheese (Paneer) Maker is responsible for production of cottage cheese from milk through the process of filtration, homogenization, pasteurization, heating, cooling, coagulation, separation, compression by operating various machineries following specifications and standards of the organisation.

Personal Attributes

A Cottage Cheese(Paneer) Maker must have the the ability to plan, organize, prioritize, calculate, concentrate and handle pressure. The individual must possess reading, writing and communication skills. In addition, the individual must have mechanical aptitude and trouble shooting skills.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N2017: Prepare and maintain work area and process machineries for production of cottage cheese](#)
2. [FIC/N2018: Production of cottage cheese \(paneer\)](#)
3. [FIC/N2019: Complete documentation and record keeping related to production of cottage cheese](#)
4. [FIC/N9001: Ensure food safety, hygiene and sanitation for processing food products](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Dairy Products
Occupation	Processing-Dairy Products
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7413.40

Qualification Pack

Minimum Educational Qualification & Experience	10th Class OR 8th Class with 2 Years of experience dairy experience
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	1. Handling raw materials, food packaging and storage techniques 2. Waste management 3. Computer basics (for large industries)
Minimum Job Entry Age	18 Years
Last Reviewed On	30/09/2021
Next Review Date	30/07/2024
Deactivation Date	30/07/2024
NSQC Approval Date	30/09/2021
Version	2.0
Reference code on NQR	2021/FI/FICSI/04574
NQR Version	1

Qualification Pack

FIC/N2017: Prepare and maintain work area and process machineries for production of cottage cheese

Description

This OS unit is about preparing and maintaining work area and process machineries for the production of cottage cheese.

Elements and Performance Criteria

Prepare and maintain work area (for production of cottage cheese)

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 the 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 production of cottage cheese)

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 production of cottage cheese such as filter, homogenizer, pasteurizer, cheese vat, paneer press, paneer cutter, packaging machines etc.
- PC5.** clean machineries and tools used with recommended sanitizers following the SOP
- 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.** hygiene requirements and standards relevant to food processing unit
- KU2.** standards and procedures followed in the organisation for cleaning process and to disinfect equipment/ tools
- KU3.** job responsibilities/duties to maintain hygiene standards
- KU4.** dress code to be followed
- KU5.** whom to approach for support in order to obtain work related instructions, clarifications and support
- KU6.** relevant people and their responsibilities within the work area
- KU7.** importance of following hygiene, safety and quality standards and the impact of not following the standards
- KU8.** types of chemicals, materials and equipment required for the cleaning and maintenance
- KU9.** cleaning process to disinfect equipment/ tools
- KU10.** supplier/manufacturers instructions related to cleaning and maintenance

Qualification Pack

- KU11.** knowledge of food safety standards and regulations (as per fssai) knowledge on legal regulations pertaining to work place like 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.** internal information documents sent by internal teams
- GS11.** task lists, schedules and activities with the supervisor
- GS12.** communicate with team members
- GS13.** the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** listen and comprehend the information given by the speaker
- GS15.** 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.** supervisor in solving problems by detailing out problems
- GS26.** the possible solutions with the supervisor for problem solving

Qualification Pack

- GS27.** domain information about maintenance processes and technical knowledge about tools and equipment
- GS28.** common sense and make judgments on day to day basis
- GS29.** reasoning skills to identify and resolve basic problems
- GS30.** intuition to detect any potential problems which could arise during operations
- GS31.** acquired knowledge of the process for identifying and handling issues

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare and maintain work area (for production of cottage cheese)</i>	19	31	-	-
PC1. clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests	5	10	-	-
PC2. ensure that the work area is safe and hygienic for food processing	8	12	-	-
PC3. dispose waste materials as per defined SOPs and industry requirements	6	9	-	-
<i>Prepare and maintain process machineries and tools (for production of cottage cheese)</i>	16	34	-	-
PC4. check the working and performance of all machineries and tools used for production of cottage cheese such as filter, homogenizer, pasteurizer, cheese vat, paneer press, paneer cutter, packaging machines etc.	8	12	-	-
PC5. clean machineries and tools used with recommended sanitizers following the SOP	4	6	-	-
PC6. place the necessary tools required for process	1	4	-	-
PC7. attend to the minor repairs/ faults of all machines, if required	3	12	-	-
NOS Total	35	65	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N2017
NOS Name	Prepare and maintain work area and process machineries for production of cottage cheese
Sector	Food Processing
Sub-Sector	Dairy Products
Occupation	Processing
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
NSQC Clearance Date	30/09/2021

Qualification Pack

FIC/N2018: Production of cottage cheese (paneer)

Description

This OS unit is about producing cottage cheese using various machineries as per the specifications and standards of the organization.

Elements and Performance Criteria

Prepare machineries for production

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

- PC1.** assemble fittings, valves, impeller shaft and other parts to equipment to prepare for operation
- PC2.** connect pipes between holding tanks and process equipment
- PC3.** start each process machineries and ensure its working and performance
- PC4.** turn valves or pump sterilizing solution and rinse by passing water through pipes to sterilize process equipment
- PC5.** check and ensure all process machineries are clean and in good mechanical condition

Process milk

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

- PC6.** refer work order from the supervisor and refer process chart for product produced
- PC7.** receive milk from the raw material storage area/warehouse/holding tanks
- PC8.** check and conform the quality through physical parameters (like impurities, colour, appearance, temperature etc) and by verifying the quality report
- PC9.** set and control metering devices to allow measured volume of milk for processing
- PC10.** open valves to pass measured quantity of milk through filter to remove impurities
- PC11.** set control parameters and open valves to allow milk into homogenizer to homogenize milk to achieve required fat content
- PC12.** set steam pressure and temperature of the pasteurizer, turn valves to allow steam, observe pressure and temperature, and open valves to allow milk into pasteurizer for pasteurization of milk to kill microbes

Produce cottage cheese (Paneer)

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

- PC13.** open valves to transfer pasteurized milk into cheese vat and start agitator to stir milk in vat

Produce cottage cheese (Paneer)

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

- PC14.** turn valves to allow steam through cheese vat to heat milk to specified temperature following sop
- PC15.** monitor dials and gauge, adjust steam valve to obtain and maintain process parameters, close steam valves on achieving required temperature
- PC16.** open valves to pass water through vat to cool milk to required temperature
- PC17.** measure milk coagulant (like citric acid) and prepare coagulant solution required for production of paneer, following SOP

Qualification Pack

- PC18.** check temperature of milk to ensure it has reached the process temperature
- PC19.** stop agitator, add measured quantity of coagulant solution into milk, and allow to stand until milk coagulate and separate into whey and cheese
- PC20.** using ladle push cheese away from the drain valve of the vat
- PC21.** open drain valves to drain whey from cheese (paneer), using ladle push and pile solid mass of cheese in vat, and check the quality through feel to ensure it has achieved desired firmness and texture
- PC22.** transfer solid mass of cheese into hooves and turn wheel to apply pressure on cheese in hooves to remove whey (or)
- PC23.** set controls of pneumatic paneer press and start machine to mechanically apply pressure to compress and remove whey from cheese
- PC24.** using knife cut big blocks of cheese into smaller blocks and transfer into vat containing cold water and keep immersed for specified time following SOP
- PC25.** open drain valves to drain cold water from vat (or) remove cheese from cold water and transfer to cutting table or paneer cutting machine
- PC26.** cut cheese to required size and weight using knife (or) set controls of cheese cutting machine, load cheese (paneer) blocks on machine and start machine to cut paneer to desired shape and weight
- PC27.** check the quality of finished products to ensure its specification to organisation and regulatory standards
- PC28.** manually weigh the finished product, fill in the labelled packaging material and seal (or) start conveyor or manually transfer product(s) into packaging machine
- PC29.** load packaging materials and labels in packaging machine, set packing quantity and labeling details, start machine to pack finished products
- PC30.** sample products produced from production line and packed product from packaging line, and transfer to quality lab for analysis
- PC31.** report discrepancies/concerns to department supervisor for immediate action and implement the suggested corrective action
- PC32.** place packed and labelled products in cartons and transfer to storage area and store maintaining storage conditions following SOP

Carry out post production cleaning and regular maintenance of equipments

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

- PC33.** clean the work area, equipments and tools using recommended cleaning agents and sanitizers
- PC34.** attend minor repairs/faults (if any) of all components and machines
- PC35.** 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

Qualification Pack

- 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 milk for production of cottage cheese
- KU10.** production process, process parameters for production of cottage cheese
- KU11.** types of machineries used in processing and machineries used in the organisation
- KU12.** operating and handling processing machineries
- KU13.** maintenance of machineries, equipments and tools
- KU14.** basic mathematics
- KU15.** quality parameters, basic food microbiology and quality assessment based on physical parameters
- KU16.** procedure for disposal of waste
- KU17.** types and category of packaging materials, packaging machineries
- KU18.** storage procedures for raw materials, packaging materials and finished goods
- KU19.** cleaning procedures such as CIP and COP
- KU20.** knowledge on sanitizers and disinfectants and its 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 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.** internal information documents sent by internal teams
- GS11.** task lists, schedules and activities with the supervisor

Qualification Pack

- GS12.** communicate with team members
- GS13.** the supervisor in order to understand the nature of the problem and to clarify queries
- GS14.** listen and comprehend the information given by the speaker
- GS15.** 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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare machineries for production</i>	2.5	7.5	-	-
PC1. assemble fittings, valves, impeller shaft and other parts to equipment to prepare for operation	0.5	1.5	-	-
PC2. connect pipes between holding tanks and process equipment	0.5	1.5	-	-
PC3. start each process machineries and ensure its working and performance	0.5	1.5	-	-
PC4. turn valves or pump sterilizing solution and rinse by passing water through pipes to sterilize process equipment	0.5	1.5	-	-
PC5. check and ensure all process machineries are clean and in good mechanical condition	0.5	1.5	-	-
<i>Process milk</i>	10	16	-	-
PC6. refer work order from the supervisor and refer process chart for product produced	1	1	-	-
PC7. receive milk from the raw material storage area/warehouse/holding tanks	0.5	1.5	-	-
PC8. check and conform the quality through physical parameters (like impurities, colour, appearance, temperature etc) and by verifying the quality report	1.5	2.5	-	-
PC9. set and control metering devices to allow measured volume of milk for processing	1.5	2.5	-	-
PC10. open valves to pass measured quantity of milk through filter to remove impurities	1.5	2.5	-	-
PC11. set control parameters and open valves to allow milk into homogenizer to homogenize milk to achieve required fat content	2	3	-	-
PC12. set steam pressure and temperature of the pasteurizer, turn valves to allow steam, observe pressure and temperature, and open valves to allow milk into pasteurizer for pasteurization of milk to kill microbes	2	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Produce cottagecheese (Paneer)</i>	0.5	1.5	-	-
PC13. open valves to transfer pasteurized milk into cheese vat and start agitator to stir milk in vat	0.5	1.5	-	-
<i>Produce cottage cheese (Paneer)</i>	20.5	35.5	-	-
PC14. turn valves to allow steam through cheese vat to heat milk to specified temperature following sop	0.5	1.5	-	-
PC15. monitor dials and gauge, adjust steam valve to obtain and maintain process parameters, close steam valves on achieving required temperature	1.5	2.5	-	-
PC16. open valves to pass water through vat to cool milk to required temperature	1	2	-	-
PC17. measure milk coagulant (like citric acid) and prepare coagulant solution required for production of paneer, following SOP	1	2	-	-
PC18. check temperature of milk to ensure it has reached the process temperature	1	2	-	-
PC19. stop agitator, add measured quantity of coagulant solution into milk, and allow to stand until milk coagulate and separate into whey and cheese	1	2	-	-
PC20. using ladle push cheese away from the drain valve of the vat	1	3	-	-
PC21. open drain valves to drain whey from cheese (paneer), using ladle push and pile solid mass of cheese in vat, and check the quality through feel to ensure it has achieved desired firmness and texture	1.5	2.5	-	-
PC22. transfer solid mass of cheese into hooves and turn wheel to apply pressure on cheese in hooves to remove whey (or)	1.5	2.5	-	-
PC23. set controls of pneumatic paneer press and start machine to mechanically apply pressure to compress and remove whey from cheese	1.5	2.5	-	-
PC24. using knife cut big blocks of cheese into smaller blocks and transfer into vat containing cold water and keep immersed for specified time following SOP	1.5	2.5	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC25. open drain valves to drain cold water from vat (or) remove cheese from cold water and transfer to cutting table or paneer cutting machine	1	1	-	-
PC26. cut cheese to required size and weight using knife (or) set controls of cheese cutting machine, load cheese (paneer) blocks on machine and start machine to cut paneer to desired shape and weight	1	2	-	-
PC27. check the quality of finished products to ensure its specification to organisation and regulatory standards	1.5	1.5	-	-
PC28. manually weigh the finished product, fill in the labelled packaging material and seal (or) start conveyor or manually transfer product(s) into packaging machine	0.5	1.5	-	-
PC29. load packaging materials and labels in packaging machine, set packing quantity and labeling details, start machine to pack finished products	0.5	1.5	-	-
PC30. sample products produced from production line and packed product from packaging line, and transfer to quality lab for analysis	1	1	-	-
PC31. report discrepancies/concerns to department supervisor for immediate action and implement the suggested corrective action	1.5	1.5	-	-
PC32. place packed and labelled products in cartons and transfer to storage area and store maintaining storage conditons following SOP	0.5	0.5	-	-
<i>Carry out post production cleaning and regular maintenance of equipments</i>	1.5	4.5	-	-
PC33. clean the work area, equipments and tools using recommended cleaning agents and sanitizers	0.5	1.5	-	-
PC34. attend minor repairs/faults (if any) of all components and machines	0.5	1.5	-	-
PC35. 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	1.5	-	-



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	35	65	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N2018
NOS Name	Production of cottage cheese (paneer)
Sector	Food Processing
Sub-Sector	Dairy Products
Occupation	Processing
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
NSQC Clearance Date	30/09/2021

Qualification Pack

FIC/N2019: Complete documentation and record keeping related to production of cottage cheese

Description

This OS unit is about documenting and maintaining records of raw materials, process and finished products related to production of cottage cheese.

Elements and Performance Criteria

Document and maintain records of raw materials (for production of cottage cheese)

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

- PC1.** document and maintain record of details of raw materials and packaging materials such as raw material type (milk from cow, buffalo etc), name of ingredients/chemicals used, vendor/supplier details, receiving date, supplier details, receiving date/ date of manufacture, expiry date, quality parameters of raw materials and ingredients/chemicals, supplier quality document, internal quality analysis report, etc. as per organisation standards
- PC2.** document and maintain record on 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 schedule and process parameters (for production of cottage cheese)

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 product details, 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 etc. as applicable) for entire production and packaging in process chart or production log for product 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 process details and raw materials, in case of quality concerns and for quality management system audits

Document and maintain records of finished products (for production of cottage cheese)

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

- PC11.** document and maintain records of the cottage cheese 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

Qualification Pack

- 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 ingredients, 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 and procedures followed for documentation and record keeping
- KU2.** marks and accreditations of the organisation
- KU3.** job responsibilities/duties for documentaion and records management in the organisation
- KU4.** ERP (enterprise resource planning) software system used/followed in the organisation
- KU5.** documentation system followed in the organization like, production chart, process chart and finished goods chart
- KU6.** details to be recorded on raw materials and finished products
- KU7.** details to be recorded and maintained on production plan and process parameters
- KU8.** methods to record and maintain records on observations (if any) related to raw materials, process and finished products
- KU9.** tracking back the record from finished product to raw material
- KU10.** 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 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

Qualification Pack

- 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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Document and maintain records of raw materials (for production of cottage cheese)</i>	15	10	-	-
PC1. document and maintain record of details of raw materials and packaging materials such as raw material type (milk from cow, buffalo etc), name of ingredients/chemicals used, vendor/supplier details, receiving date, supplier details, receiving date/ date of manufacture, expiry date, quality parameters of raw materials and ingredients/chemicals, supplier quality document, internal quality analysis report, etc. as per organisation standards	6	4	-	-
PC2. document and maintain record on 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 schedule and process parameters (for production of cottage cheese)</i>	30	20	-	-
PC5. document and maintain records of production plan with details such as product details, 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 etc. as applicable) for entire production and packaging in process chart or production log for product 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	-	-

Qualification Pack

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 process details and raw materials, in case of quality concerns and for quality management system audits	3	2	-	-
<i>Document and maintain records of finished products (for production of cottage cheese)</i>	15	10	-	-
PC11. document and maintain records of the cottage cheese produced	3	2	-	-
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	3	2	-	-
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 ingredients, in case of quality concerns and for quality management system audits	3	2	-	-
NOS Total	60	40	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N2019
NOS Name	Complete documentation and record keeping related to production of cottage cheese
Sector	Food Processing
Sub-Sector	Dairy Products
Occupation	Processing
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
NSQC Clearance Date	30/09/2021

Qualification Pack

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

Qualification Pack

- 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

Qualification Pack

- 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

Qualification Pack

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	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-
<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	-	-

Qualification Pack

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
NSQC 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.

Qualification Pack

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/N2017.Prepare and maintain work area and process machineries for production of cottage cheese	35	65	-	-	100	20
FIC/N2018.Production of cottage cheese (paneer)	35	65	-	-	100	30
FIC/N2019.Complete documentation and record keeping related to production of cottage cheese	60	40	-	-	100	20
FIC/N9001.Ensure food safety, hygiene and sanitation for processing food products	35	65	-	-	100	30
Total	165	235	-	-	400	100

Qualification Pack

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

Qualification Pack

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.

Qualification Pack

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.