



Industrial Baker

QP Code: FIC/Q5006

Version: 1.0

NSQF Level: 4

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FIC/Q5006: Industrial Baker

Brief Job Description

An Industrial baker is responsible for production of a variety of baked products, deploying the skills required to operate various baking equipment in line with other machines and tools as per the Standard Operating Procedures of the organization and achieving consistent quality and output.

Personal Attributes

An Industrial baker must have the ability to plan , organize and prioritize tasks in the workplace. The Individual must possess reading, writing, communication and trouble shooting skills. Besides, the individual must be able to handle work pressures and have good calculation skills. The person should have good sensory skills and should be able to differentiate between basic tastes.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N9026: Prepare for production](#)
2. [FIC/N5003: Produce baked products in industrial units](#)
3. [FIC/N9901: Implement health and safety practices at the workplace](#)
4. [FIC/N9902: Work effectively in an organisation](#)
5. [SGJ/N1702: Optimize resource utilization at workplace](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing-Bread and Bakery
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL

Minimum Educational Qualification & Experience	12th Class with 1 Year of experience relevant experience OR 10th Class with 3 Years of experience relevant experience OR Certificate-NSQF (Level 3 qualification certificate of food processing sector) with 2 Years of experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	1.0

FIC/N9026: Prepare for production

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Plan for production

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

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

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

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

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

Organize for production

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

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

Assessment Criteria

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

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

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9026
NOS Name	Prepare for production
Sector	Food Processing
Sub-Sector	Generic
Occupation	Production
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/09/2021
Next Review Date	30/07/2024
NSQC Clearance Date	30/09/2021

FIC/N5003: Produce baked products in industrial units

Description

This unit is about supervising and controlling the production of various baked products in industries using continuous processing machineries or automated machineries, as per the specifications and SOPs.

Scope

The scope of this role will include:

Elements and Performance Criteria

Weigh and mix Ingredients

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

- PC1.** refer the production order and formulation for the product/SKU, and organize all the ingredients required for the product/batch
- PC2.** check the quality of each ingredient through physical parameters such as appearance, colour, odour, texture etc. for its conformance to standards and specifications
- PC3.** set and control metering devices that measure each ingredient as per the formulation, and check the scale indicators to confirm if the specified amount of ingredients have been added
- PC4.** start flour sifter and pre-mixer to blend ingredients
- PC5.** transfer all the ingredients together or sequentially into the mixing machine, and set the mixer speed, time and temperature depending on the mixing process, following the SOP
- PC6.** start the mixing machine to knead/mix the ingredients and observe dials and recording instruments to verify dough temperature, viscosity of batter, speed and time of mixing
- PC7.** check and feel the dough/batter to ascertain its consistency meets the standard, and unload dough/ batter in the trough/ hopper

Fermentation, moulding and proofing dough (for bread)

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

- PC8.** set and maintain temperature, humidity of fermentation chamber/room, transfer dough into fermentation chamber/room and allow to stand for specified time for fermentation
- PC9.** check the fermented dough at regular intervals for required consistency
- PC10.** transfer the fermented dough into the mixer for second stage mixing following the sop, set the speed and time of the mixer and start to mix the fermented dough
- PC11.** transfer the dough into the trough/ hopper and load the dough onto the dough divider and adjust controls to set speed of the divider and start divider blades that cut off specified weight of dough and drop onto the conveyor
- PC12.** set and control the speed of the divider conveyor that pass the dough through the line that shapes the dough into balls, dust with flour and transport the shaped dough to the moulder conveyor without sticking
- PC13.** weigh the dough balls at regular intervals to check its conformance to standards
- PC14.** load or ensure loading (by helpers) of specified size baking moulds/ pans on the panning conveyor and ensure that speed of the moulder and conveyor are synchronised to allow smooth passage of dough

- PC15.** allow the dough to pass through moulding line that fold and roll the dough to desired shape and allow the shaped dough to arrange in the baking moulds/ pans passing on the panning conveyor
- PC16.** set and control the speed of the conveyor that take the moulded dough into the proofer and turn controls to set the temperature, relative humidity of the proofer following the SOP
- PC17.** monitor the proofed dough passing out of the proofer to confirm it has rise to specified height

Roll, shape and cut dough (for biscuits)

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

- PC18.** load the dough trough containing dough, in the elevator and start the elevator to lift the dough trough and dump the dough in the dough feeder (if dough feeder is in the elevated position)
- PC19.** set the controls of each roller of the laminator machine and start the machine to produce continuous sheet of dough
- PC20.** set the controls of rotary cutter machine to cut the sheet of dough to desired size, shape and design and set the controls of the separating machine to separate the cut dough and control scrap return
- PC21.** observe operation of laminator, rotary cutter and separating machine, and remove malformed biscuit shapes and control scrap return
- PC22.** load topping materials like salt, sugar, choco chips etc in sprinkler machine following the sop for the product/sku and set the controls of the machines to sprinkle measured quantity of topping material over the cut dough

Mould cake batter

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

- PC23.** prepare the baking pans by placing the paper liners in the moulds of the baking pans
- PC24.** adjust controls of the batter depositor machine to fill measured quantity of batter into the moulds of baking pans
- PC25.** start the conveyor and control speed such that the moulds of the baking pans are positioned below the filling nozzle of the batter depositor machine
- PC26.** start machine to pump measured quantity of batter into the moulds of the baking pans
- PC27.** fill the topping materials such as fruits, nuts, chocolate chips, etc. in the topping machine following the sop for the product/sku and start the topping machine to deposit measured quantity of topping materials on the batter in the baking pans
- PC28.** check the weight of the filled moulds at regular intervals to ensure its conformance to standards

Bake and pack baked products

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

- PC29.** set the oven parameters such as baking temperature, baking time, speed of the panning conveyor etc., and monitor and control the dough/batter filled baking pans entering the oven (tunnel oven)
- PC30.** observe baking of products through the observation window of the tunnel oven and monitor the oven parameters during the entire baking process
- PC31.** observe the product coming out the oven for its quality through physical parameters such as colour, aroma, texture etc. to detect burning /over baking/under baking and accordingly control oven parameters to achieve finished product of uniform quality, and remove the non-conforming products from the conveyor

- PC32.** check the quality of the finished products (bread, biscuit and cake) through physical parameters such as colour, size, appearance, texture, aroma, etc. and compare against standard
- PC33.** control the vacuum system that remove the baked product from the baking moulds/ pans through suction
- PC34.** set, control and maintain speed of the cooling conveyor and fans to cool the finished products and ensure the products are cooled to the required temperature
- PC35.** check the weight of finished product periodically and ensure its conformance to standards
- PC36.** adjust controls of the conveyor and slicer to allow the bread loaves/cakes to pass through slicer and ensure it is cut to required thickness
- PC37.** adjust controls to allow the finished products to move to the automatic packaging machine
- PC38.** sample the packed product and transfer to quality lab for analysis
- PC39.** report discrepancies/concerns in each stage of production to department supervisor for immediate action

Post production cleaning and regular maintenance of equipments

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

- PC40.** clean the work area, machineries, equipment and tools using recommended cleaning agents and sanitizers
- PC41.** attend minor repairs/faults of all machines (if any)
- PC42.** 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 organization
- KU2.** types of products produced by the organization
- 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 organization policy
- KU8.** food safety and hygiene standards followed
- KU9.** types of raw materials, ingredients and finishing materials required for making various baked products
- KU10.** production process, process parameters and formulation of all types of baked products
- KU11.** types of machineries used for baking various products and machineries used in the organization
- KU12.** handling and maintenance of baking equipment
- KU13.** hand-in machine safety
- KU14.** process parameters and machine parameters for all products handled
- KU15.** basic mathematics

- KU16.** quality parameters, quality standards to be maintained and quality assessment based on physical parameters
- KU17.** types of packaging materials for various type of products
- KU18.** types of chemicals, materials, tools and equipment required for cleaning and maintenance
- KU19.** clean-in-place and clean-out-of-place methods and procedures
- KU20.** methods to clean and disinfect equipment, tools and work area
- KU21.** food safety and hygiene
- KU22.** knowledge on food safety standards and regulations (as per FSSAI)
- 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 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 team on the issues faced
- 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>Weigh and mix Ingredients</i>	5	12	-	-
PC1. refer the production order and formulation for the product/SKU, and organize all the ingredients required for the product/batch	0.5	1.5	-	-
PC2. check the quality of each ingredient through physical parameters such as appearance, colour, odour, texture etc. for its conformance to standards and specifications	1	2	-	-
PC3. set and control metering devices that measure each ingredient as per the formulation, and check the scale indicators to confirm if the specified amount of ingredients have been added	0.5	1.5	-	-
PC4. start flour sifter and pre-mixer to blend ingredients	1	2	-	-
PC5. transfer all the ingredients together or sequentially into the mixing machine, and set the mixer speed, time and temperature depending on the mixing process, following the SOP	0.5	1.5	-	-
PC6. start the mixing machine to knead/mix the ingredients and observe dials and recording instruments to verify dough temperature, viscosity of batter, speed and time of mixing	0.5	1.5	-	-
PC7. check and feel the dough/batter to ascertain its consistency meets the standard, and unload dough/ batter in the trough/ hopper	1	2	-	-
<i>Fermentation, moulding and proofing dough(for bread)</i>	8.5	11.5	-	-
PC8. set and maintain temperature, humidity of fermentation chamber/room, transfer dough into fermentation chamber/room and allow to stand for specified time for fermentation	0.5	1.5	-	-
PC9. check the fermented dough at regular intervals for required consistency	0.5	1.5	-	-
PC10. transfer the fermented dough into the mixer for second stage mixing following the sop, set the speed and time of the mixer and start to mix the fermented dough	1	1	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. transfer the dough into the trough/ hopper and load the dough onto the dough divider and adjust controls to set speed of the divider and start divider blades that cut off specified weight of dough and drop onto the conveyor	1	1	-	-
PC12. set and control the speed of the divider conveyor that pass the dough through the line that shapes the dough into balls, dust with flour and transport the shaped dough to the moulder conveyor without sticking	1	1	-	-
PC13. weigh the dough balls at regular intervals to check its conformance to standards	1	1	-	-
PC14. load or ensure loading (by helpers) of specified size baking moulds/ pans on the panning conveyor and ensure that speed of the moulder and conveyor are synchronised to allow smooth passage of dough	0.5	1.5	-	-
PC15. allow the dough to pass through moulding line that fold and roll the dough to desired shape and allow the shaped dough to arrange in the baking moulds/ pans passing on the panning conveyor	1	1	-	-
PC16. set and control the speed of the conveyor that take the moulded dough into the proofer and turn controls to set the temperature, relative humidity of the proofer following the SOP	1	1	-	-
PC17. monitor the proofed dough passing out of the proofer to confirm it has rise to specified height	1	1	-	-
<i>Roll, shape and cut dough (for biscuits)</i>	5.5	8.5	-	-
PC18. load the dough trough containing dough, in the elevator and start the elevator to lift the dough trough and dump the dough in the dough feeder (if dough feeder is in the elevated position)	1	1	-	-
PC19. set the controls of each roller of the laminator machine and start the machine to produce continuous sheet of dough	1	1	-	-
PC20. set the controls of rotary cutter machine to cut the sheet of dough to desired size, shape and design and set the controls of the separating machine to separate the cut dough and control scrap return	2	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. observe operation of laminator, rotary cutter and separating machine, and remove malformed biscuit shapes and control scrap return	1	2	-	-
PC22. load topping materials like salt, sugar, choco chips etc in sprinkler machine following the sop for the product/sku and set the controls of the machines to sprinkle measured quantity of topping material over the cut dough	0.5	1.5	-	-
<i>Mould cake batter</i>	5	11	-	-
PC23. prepare the baking pans by placing the paper liners in the moulds of the baking pans	0.5	1.5	-	-
PC24. adjust controls of the batter depositor machine to fill measured quantity of batter into the moulds of baking pans	0.5	1.5	-	-
PC25. start the conveyor and control speed such that the moulds of the baking pans are positioned below the filling nozzle of the batter depositor machine	0.5	1.5	-	-
PC26. start machine to pump measured quantity of batter into the moulds of the baking pans	0.5	1.5	-	-
PC27. fill the topping materials such as fruits, nuts, chocolate chips, etc. in the topping machine following the sop for the product/sku and start the topping machine to deposit measured quantity of topping materials on the batter in the baking pans	1	2	-	-
PC28. check the weight of the filled moulds at regular intervals to ensure its conformance to standards	2	3	-	-
<i>Bake and pack baked products</i>	9.5	17.5	-	-
PC29. set the oven parameters such as baking temperature, baking time, speed of the panning conveyor etc., and monitor and control the dough/batter filled baking pans entering the oven (tunnel oven)	2	3	-	-
PC30. observe baking of products through the observation window of the tunnel oven and monitor the oven parameters during the entire baking process	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC31. observe the product coming out the oven for its quality through physical parameters such as colour, aroma, texture etc. to detect burning /over baking/under baking and accordingly control oven parameters to achieve finished product of uniform quality, and remove the non-conforming products from the conveyor	0.5	1.5	-	-
PC32. check the quality of the finished products (bread, biscuit and cake) through physical parameters such as colour, size, appearance, texture, aroma, etc. and compare against standard	0.5	1.5	-	-
PC33. control the vacuum system that remove the baked product from the baking moulds/ pans through suction	0.5	1.5	-	-
PC34. set, control and maintain speed of the cooling conveyor and fans to cool the finished products and ensure the products are cooled to the required temperature	1	1	-	-
PC35. check the weight of finished product periodically and ensure its conformance to standards	1	1	-	-
PC36. adjust controls of the conveyor and slicer to allow the bread loaves/cakes to pass through slicer and ensure it is cut to required thickness	1	1	-	-
PC37. adjust controls to allow the finished products to move to the automatic packaging machine	0.5	1.5	-	-
PC38. sample the packed product and transfer to quality lab for analysis	0.5	1.5	-	-
PC39. report discrepancies/concerns in each stage of production to department supervisor for immediate action	1	2	-	-
<i>Post production cleaning and regular maintenance of equipments</i>	1.5	4.5	-	-
PC40. clean the work area, machineries, equipment and tools using recommended cleaning agents and sanitizers	0.5	1.5	-	-
PC41. attend minor repairs/faults of all machines (if any)	0.5	1.5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC42. 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	-	-
NOS Total	35	65	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N5003
NOS Name	Produce baked products in industrial units
Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing
NSQF Level	5
Credits	TBD
Version	1.0
Last Reviewed Date	03/07/2015
Next Review Date	31/03/2022
NSQC Clearance Date	30/03/2018

FIC/N9901: Implement health and safety practices at the workplace

Description

This unit is about following health and safety procedures at the workplace.

Scope

The scope covers the following :

- Ensure food safety and personal hygiene
- Follow safety measures to avoid accidents
- Follow emergency procedures
- Manage infection control

Elements and Performance Criteria

Ensure food safety and personal hygiene

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

- PC1.** follow relevant practices to avoid cross contamination at all stages of food processing operations
- PC2.** follow organisational procedures for handling items that may cause allergic reactions
- PC3.** follow Good Manufacturing Practices (GMP) at the workplace. Good Manufacturing Practices: location and layout (ergonomics), cleaning and sanitation, equipment and containers, pest control, facilities (lighting, water supply, drainage and waste disposal, air quality and ventilation), food storage, transportation, and distribution (Source: Schedule IV, FSSAI Licensing and Registration, 2011)
- PC4.** follow Good Hygiene Practices (GHP) at the workplace appropriately. Good Hygiene Practices: use of gloves, hairnets, masks, ear plugs, goggles, shoes etc; washing hands regularly; treating injuries such as cuts, boils, skin infections and grazes; preventive health check-ups ; getting vaccinated whenever required. (Source: Schedule IV, FSSAI Licensing and Registration, 2011)

Follow safety measures to avoid accidents

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

- PC5.** use protective clothing/equipment for specific tasks and work conditions
- PC6.** identify job-site hazardous work and possible causes of risk or accident at the workplace
- PC7.** deal with hazards safely and appropriately to ensure safety of self and others as per organisational protocol
- PC8.** use various types of fire extinguishers effectively
- PC9.** respond promptly and appropriately to an accident situation or medical emergency
- PC10.** provide cardio-pulmonary resuscitation (CPR) as per the requirement (e.g. cardiac arrest)

Follow emergency procedures

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

- PC11.** follow workplace emergency and evacuation procedures
- PC12.** use safe methods to free a person from electrocution

PC13. administer appropriate first aid to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.

Manage infection control

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

PC14. use appropriate disinfectants to disinfect the work area and equipment as per organisational protocol

PC15. ensure personal hygiene by washing hands regularly using alcohol based sanitisers and wearing personal protective equipment (PPE)

PC16. report illness of self and others to the supervisor or concerned authority

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. meaning of hazards and risks

KU2. possible causes of risk, hazard or accident in the workplace

KU3. where to find all the general health and safety equipment in the workplace

KU4. health and safety policy and procedures of the organization

KU5. health and safety hazards commonly present in the work environment

KU6. work practices and precautions used to control and prevent risks, hazards and accidents

KU7. applicable standards and regulations as listed in The Food Safety and Standards Act, 2006

KU8. importance of each personal protective equipment used such as eye protection, hard hats, gloves apron, rubber boots, etc.

KU9. importance of ensuring personal hygiene at the workplace

KU10. ways to prevent cross contamination at the workplace

KU11. importance of storing food at specified temperatures

KU12. various dangers associated with the use of electrical and other equipment

KU13. preventive and remedial actions to be taken in the case of exposure to toxic materials

KU14. various causes of fire and the ways to prevent them

KU15. techniques of using the different fire extinguishers

KU16. procedure followed for providing cardio-pulmonary resuscitation (CPR) to the affected

KU17. rescue techniques applied during a fire hazard

KU18. various types of safety signs and what they mean

KU19. workplace emergency and evacuation procedures

KU20. appropriate basic first aid treatment relevant to the condition e.g. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries

KU21. potential injuries and ill health conditions associated with incorrect manual handling

KU22. safe lifting and carrying practices

KU23. safe practices to be followed for ensuring sanitisation of self and work area

KU24. procedure for storing the sanitising materials appropriately

Generic Skills (GS)

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

- GS1.** write an accident/incident report in local language or English
- GS2.** read and comprehend basic content to read labels, charts, signages, symbols and product manuals
- GS3.** communicate with coworkers appropriately in order to clarify instructions and other issues
- GS4.** make appropriate decisions pertaining to the concerned area of work regarding the work objective, span of authority, responsibility, laid down procedure and guidelines
- GS5.** plan and organize the work schedule, work area, tools, equipment and materials for improved productivity
- GS6.** identify probable solutions to the problems in hand and evaluate them
- GS7.** seek official and authorised sources of help and guidance to resolve problems that cannot be solved at one's level of authority

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure food safety and personal hygiene</i>	7	19	-	-
PC1. follow relevant practices to avoid cross contamination at all stages of food processing operations	1	4	-	-
PC2. follow organisational procedures for handling items that may cause allergic reactions	1	4	-	-
PC3. follow Good Manufacturing Practices (GMP) at the workplace. Good Manufacturing Practices: location and layout (ergonomics), cleaning and sanitation, equipment and containers, pest control, facilities (lighting, water supply, drainage and waste disposal, air quality and ventilation), food storage, transportation, and distribution (Source: Schedule IV, FSSAI Licensing and Registration, 2011)	3	7	-	-
PC4. follow Good Hygiene Practices (GHP) at the workplace appropriately. Good Hygiene Practices: use of gloves, hairnets, masks, ear plugs, goggles, shoes etc; washing hands regularly; treating injuries such as cuts, boils, skin infections and grazes; preventive health check-ups ; getting vaccinated whenever required. (Source: Schedule IV, FSSAI Licensing and Registration, 2011)	2	4	-	-
<i>Follow safety measures to avoid accidents</i>	11	24	-	-
PC5. use protective clothing/equipment for specific tasks and work conditions	2	4	-	-
PC6. identify job-site hazardous work and possible causes of risk or accident at the workplace	2	4	-	-
PC7. deal with hazards safely and appropriately to ensure safety of self and others as per organisational protocol	2	4	-	-
PC8. use various types of fire extinguishers effectively	2	4	-	-
PC9. respond promptly and appropriately to an accident situation or medical emergency	1	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. provide cardio-pulmonary resuscitation (CPR) as per the requirement (e.g. cardiac arrest)	2	4	-	-
<i>Follow emergency procedures</i>	6	12	-	-
PC11. follow workplace emergency and evacuation procedures	2	4	-	-
PC12. use safe methods to free a person from electrocution	2	4	-	-
PC13. administer appropriate first aid to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning etc.	2	4	-	-
<i>Manage infection control</i>	6	15	-	-
PC14. use appropriate disinfectants to disinfect the work area and equipment as per organisational protocol	3	7	-	-
PC15. ensure personal hygiene by washing hands regularly using alcohol based sanitisers and wearing personal protective equipment (PPE)	1	4	-	-
PC16. report illness of self and others to the supervisor or concerned authority	2	4	-	-
NOS Total	30	70	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9901
NOS Name	Implement health and safety practices at the workplace
Sector	Food Processing
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	25/11/2021
Next Review Date	25/11/2024
NSQ Clearance Date	25/11/2021

FIC/N9902: Work effectively in an organisation

Description

This unit is about working effectively with others.

Scope

The scope covers the following :

- Communicate effectively
- Work in a team effectively
- Respect diversity

Elements and Performance Criteria

Communicate effectively

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

- PC1.** obtain complete information and instructions from designated personnel
- PC2.** reciprocate understanding and seek clarifications whenever required
- PC3.** provide information accurately and clearly
- PC4.** use inclusive language (verbal, non-verbal and written) that is gender, disability and culturally sensitive

Work in a team effectively

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

- PC5.** plan tasks to be performed as per priority and need
- PC6.** consult with and assist others to maximize effectiveness and efficiency at work
- PC7.** escalate problems and grievances beyond own scope to the concerned authority
- PC8.** take appropriate action to resolve conflicts at the workplace

Respect diversity

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

- PC9.** maintain a gender-neutral behaviour with everyone at the workplace
- PC10.** empathise with People with Disabilities (PWD) and offer help, if required
- PC11.** recognise and report incidents of harassment and discrimination to appropriate authority

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organizational quality procedures and processes associated with work
- KU2.** standards, policies, and procedures followed in the organization relevant to employment, harassment, discrimination and performance conditions
- KU3.** reporting structure, inter-dependent functions, lines, and procedures applicable at the workplace

- KU4.** different types of harassment and discrimination based on gender, disability, caste, religion, and culture
- KU5.** components of effective communication and its importance
- KU6.** importance of teamwork in organizational and individual success
- KU7.** importance of ethics and discipline for professional success
- KU8.** how to express and address grievances appropriately and effectively
- KU9.** importance and ways of managing interpersonal conflict effectively
- KU10.** different types of disabilities and the challenges faced by persons with disability (PwD)
- KU11.** laws, acts and provisions defined for PwD
- KU12.** importance of gender sensitivity and equality
- KU13.** legislations, grievance redressal mechanisms, and penalties against harassment in the workplace

Generic Skills (GS)

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

- GS1.** communicate information, doubts and concerns about work related matters in local language or Hindi/English
- GS2.** read and interpret information given in local language or Hindi/English
- GS3.** establish priorities and deadlines in consultation with other and record them
- GS4.** be punctual
- GS5.** listen to others concerns and doubts carefully and address them
- GS6.** be courteous

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicate effectively</i>	8	13	-	-
PC1. obtain complete information and instructions from designated personnel	2	3	-	-
PC2. reciprocate understanding and seek clarifications whenever required	2	3	-	-
PC3. provide information accurately and clearly	2	3	-	-
PC4. use inclusive language (verbal, non-verbal and written) that is gender, disability and culturally sensitive	2	4	-	-
<i>Work in a team effectively</i>	8	14	-	-
PC5. plan tasks to be performed as per priority and need	2	4	-	-
PC6. consult with and assist others to maximize effectiveness and efficiency at work	2	3	-	-
PC7. escalate problems and grievances beyond own scope to the concerned authority	2	3	-	-
PC8. take appropriate action to resolve conflicts at the workplace	2	4	-	-
<i>Respect diversity</i>	6	12	-	-
PC9. maintain a gender-neutral behaviour with everyone at the workplace	2	4	-	-
PC10. empathise with People with Disabilities (PwD) and offer help, if required	2	4	-	-
PC11. recognise and report incidents of harassment and discrimination to appropriate authority	2	4	-	-
NOS Total	22	39	-	-

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9902
NOS Name	Work effectively in an organisation
Sector	Food Processing
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	25/11/2021
Next Review Date	25/11/2024
NSQC Clearance Date	25/11/2021

SGJ/N1702: Optimize resource utilization at workplace

Description

This unit is about adopting sustainable practices and optimizing use of resources, especially material, energy and waste, in day-to-day operations at work

Scope

The scope covers the following :

- Material conservation practices
- Energy/electricity conservation practices
- Effective waste management/recycling practices

Elements and Performance Criteria

Material conservation practices

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

- PC1.** identify ways to optimize usage of material including water in various tasks/activities/processes
- PC2.** check for spills/leakages in various tasks/activities/processes
- PC3.** plug spills/leakages and escalate to appropriate authority if unable to rectify
- PC4.** carry out routine cleaning of tools, machines and equipment

Energy/electricity conservation practices

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

- PC5.** identify ways to optimize usage of electricity/energy in various tasks/activities/processes
- PC6.** check if the equipment/machine is functioning normally before commencing work and rectify wherever required
- PC7.** report malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment
- PC8.** ensure electrical equipment and appliances are properly connected and turned off when not in use

Effective waste management/recycling practices

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

- PC9.** identify recyclable and non-recyclable, and hazardous waste generated
- PC10.** segregate waste into different categories
- PC11.** dispose non-recyclable waste appropriately
- PC12.** deposit recyclable and reusable material at identified location
- PC13.** follow processes specified for disposal of hazardous waste

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** potential hazards, risks and threats based on the nature of work
- KU2.** layout of the workstation and electrical and thermal equipment used
- KU3.** organizations procedures for minimizing waste
- KU4.** efficient and inefficient utilization of material and water
- KU5.** ways of efficiently managing material and water in the process
- KU6.** basics of electricity and prevalent energy efficient devices
- KU7.** ways to recognize common electrical problems
- KU8.** common practices of conserving electricity
- KU9.** usage of different colours of dustbins
- KU10.** categorization of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics
- KU11.** waste management and methods of waste disposal
- KU12.** common sources of pollution and ways to minimize it

Generic Skills (GS)

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

- GS1.** record data on waste disposal at workplace
- GS2.** complete statutory documents relevant to safety and hygiene
- GS3.** read Standard Operating Practices (SOP) documents
- GS4.** communicate with colleagues on the significance of greening of jobs
- GS5.** make timely decisions for efficient utilization of resources
- GS6.** complete tasks efficiently and accurately within stipulated time
- GS7.** work with supervisors/team members to carry out work related tasks
- GS8.** identify cause and effect of greening of jobs

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Material conservation practices</i>	4	8	-	-
PC1. identify ways to optimize usage of material including water in various tasks/activities/processes	1	2	-	-
PC2. check for spills/leakages in various tasks/activities/processes	1	2	-	-
PC3. plug spills/leakages and escalate to appropriate authority if unable to rectify	1	2	-	-
PC4. carry out routine cleaning of tools, machines and equipment	1	2	-	-
<i>Energy/electricity conservation practices</i>	4	8	-	-
PC5. identify ways to optimize usage of electricity/energy in various tasks/activities/processes	1	2	-	-
PC6. check if the equipment/machine is functioning normally before commencing work and rectify wherever required	1	2	-	-
PC7. report malfunctioning (fumes/sparks/emission/vibration/noise) and lapse in maintenance of equipment	1	2	-	-
PC8. ensure electrical equipment and appliances are properly connected and turned off when not in use	1	2	-	-
<i>Effective waste management/recycling practices</i>	5	10	-	-
PC9. identify recyclable and non-recyclable, and hazardous waste generated	1	2	-	-
PC10. segregate waste into different categories	1	2	-	-
PC11. dispose non-recyclable waste appropriately	1	2	-	-
PC12. deposit recyclable and reusable material at identified location	1	2	-	-
PC13. follow processes specified for disposal of hazardous waste	1	2	-	-
NOS Total	13	26	-	-

National Occupational Standards (NOS) Parameters

NOS Code	SGJ/N1702
NOS Name	Optimize resource utilization at workplace
Sector	Green Jobs
Sub-Sector	Other Green Jobs
Occupation	Resource Optimization
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	25/11/2021
Next Review Date	25/11/2024
NSQC Clearance Date	25/11/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualifications Pack will be approved by the Sector Skill Council. Each 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 PC.
2. The assessment for the theory part will be based on knowledge bank of questions approved 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 centre (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criterion.
6. To pass the Qualifications Pack, every trainee should score a minimum of 70 %of aggregate marks.
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/N9026.Prepare for production	30	70	-	-	100	25
FIC/N5003.Produce baked products in industrial units	35	65	-	-	100	35
FIC/N9901.Implement health and safety practices at the workplace	30	70	-	-	100	15
FIC/N9902.Work effectively in an organisation	22	39	-	-	61	15
SGJ/N1702.Optimize resource utilization at workplace	13	26	-	-	39	10
Total	130	270	-	-	400	100

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

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