



Baking Technician

QP Code: FIC/Q5005

Version: 4.0

NSQF Level: 3

Food Industry Capacity & Skill Initiative || Shriram Bharatiya Kala kendra, 3rd floor, 1, Copernicus
Marg, Mandi House, New Delhi
Delhi 110001 || email:santosh@ficsi.in

Contents

FIC/Q5005: Baking technician	3
FIC/N9026: Prepare for Production Planning and Inventory Control	5
FIC/N5019: Bake products in the oven	9
FIC/N9906: Apply Food Safety Guidelines in Food Processing	18
DGT/VSQ/N0101: Employability Skills (30 Hours)	25
Assessment Guidelines and Assessment Weightage	32
Assessment Weightage	33
Acronyms	33
Glossary	34

FIC/Q5005: Baking technician

Brief Job Description

A Baking technician is responsible for baking products, maintaining their consistency and hygienic quality while meeting defined SOPs and leveraging his/her skills to operate ovens in synchronisation with the proof box/ rest of the plant/ unit.

Personal Attributes

The individual must possess skills such as planning production and operation, organising desired utensils and materials, prioritising tasks, and being well-versed in standard calculations. The individual must possess basic communication skills in English and local dialects. In addition, the individual must have stamina to stand for long hours, have personal and professional hygiene, and understand food safety standards and requirements.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N9026: Prepare for production](#)
2. [FIC/5019: Bake products in the oven](#)
3. [FIC/N9906: Apply food safety guidelines in Food Processing](#)
4. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing-Bread and Bakery
Country	India
NSQF Level	3
Credits	9
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7512.0100

Minimum Educational Qualification & Experience	Grade 10 pass & Equivalent OR Grade 8 pass with 3 years of relevant experience in Food Industry OR Previous Relevant Qualification of NSQF Level 2.5 with 1.5 years experience in Food industry OR Previous Relevant Qualification of NSQF Level 2 with 3 years experience - in Food industry
Minimum Level of Education for Training in School	Grade 10 pass
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	27/08/2024
Next Review Date	26/08/2027
NSQC Approval Date	27/08/2024
Version	3.0
Reference code on NQR	QG-03-FI-02932-2024-V2-FICSI
NQR Version	4
Remarks:	NA

FIC/N9026: Prepare for Production Planning and Inventory Control

Description

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

Scope

The scope covers the following: -

- Plan for production
- Clean and maintain work area, machinery and tools for production
- Organise for production

Elements and Performance Criteria

Plan for production

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

- PC.1** Obtain process flow chart, product flow chart and formulation flow chart
- PC.2** Identify work requirements by obtaining production planning and instructions from the supervisor
- PC.3** Inspect work area, clean production and storage, maintain machines, and verify hygiene, maintenance, and documents before production.
- PC.4** Estimate manpower requirements and material requirements as per planned production. (Raw material & packaging material).
- PC.5** Plan capacity utilisation of machinery with respect to the processing time, production order, and batch size for each product

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

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

- PC.6** Clean and maintain the work area as per organisation's standard procedure.
- PC.7** Clean and maintain the machines and tools and sanitise them as per the organisation's specifications and standards
- PC.8** Ensure disposal of waste material is at designated places only. Waste material: Hazardous waste, food waste, packaging waste, etc.
- PC.9** Inspect the tools, equipment, and machinery to ascertain suitability for use
- PC.10** Report information such as faulty tools and equipment to the concerned authority

Organise for production

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

- PC.11** Organise tools for production. Ensure equipment is clean and in working condition for production
- PC.12** Organise received raw and packaging materials based on FIFO and organisational standards.
- PC.13** Allot responsibilities/work to the assistants and helpers as per the production planning

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, raw material and packaging material.capacity utilisation calculation
- KU5.** Organisational policies and SOP on cleanliness
- KU6.** Operating procedure and general maintenance of food production machineries
- KU7.** Waste management procedures
- KU8.** Methods to inspect tools, equipment and machinery
- KU9.** Procedure to allot work or responsibility to the team
- KU10.** Cleaning and sanitation standards or organisation

Generic Skills (GS)

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

- GS.1** Read and interpret organisational policies, SOP, production charts, etc.
- GS.2** Communicate effectively with subordinates as well as supervisors
- GS.3** Plan and prioritise various tasks
- GS.4** Be always punctual and courteous
- GS.5** Organise all process/equipment manuals to access information easily
- GS.6** 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>	10	20	-	5
PC.1 Obtain process flow chart, product flow chart and formulation flow chart	-	-	-	-
PC.2 Identify work requirements by obtaining production planning and instructions from the supervisor	-	-	-	-
PC.3 Inspect work area, clean production and storage, maintain machines, verify hygiene, maintenance, and documents before production.	-	-	-	-
PC.4 Estimate manpower requirements and material requirements as per planned production. (Raw material & packaging material).	-	-	-	-
PC.5 Plan capacity utilisation of machinery with respect to the processing time, production order, and batch size for each product	-	-	-	-
<i>Clean and maintain work area, machineries, and tools for production</i>	10	30	-	5
PC.6 Clean and maintain the work area as per organisation's standard procedure.	-	-	-	-
PC.7 Clean and maintain the machines and tools and sanitise them as per the organisation's specifications and standards	-	-	-	-
PC.8 Ensure disposal of waste material is at designated places only. Waste material: Hazardous waste, food waste, packaging waste, etc.	-	-	-	-
PC.9 Inspect the tools, equipment, and machinery to ascertain suitability for use	-	-	-	-
PC.10 Report information such as faulty tools and	-	-	-	-

equipment to the concerned authority				
<i>Organise for production</i>	5	10	-	5
PC.11 Organise tools for production. Ensure equipment are clean and in working condition for production	-	-	-	-
PC.12 Organise received raw and packaging materials based on FIFO and organisational standards.				
PC.13 Allot responsibilities/work to the assistants and helpers as per the production planning	-	-	-	-
NOS Total	25	60	-	15

FIC/N5019: Bake products in the oven

Description

This unit is about producing various baked products in the oven.

Elements and Performance Criteria

Handle proofing (in case of bread preparation)

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

- PC.1** set the proof box to the required temperature and humidity following the proofing chart, as per specifications and organisation standards
- PC.2** refer to the production chart/proofing chart to understand the loading sequence
- PC.3** load the proof box following the production sequence
- PC.4** monitor proof box parameters such as temperature/humidity
- PC.5** monitor product in the proof box
- PC.6** pull bread at specified heights from proof box
- PC.7** monitor the proof box and product coming out of the proof box

Baking in oven

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

- PC.8** Prepare the proof box by setting parameters such as temperature, humidity, etc., according to product specifications and standard operating procedures.
- PC.9** Prepare and calibrate the oven (in case of batch operation) by pre-heating it to the specified temperature per the oven chart, ensuring it reaches the desired temperature before loading.
- PC.10** Prepare the conveyor (in case of continuous operation) by setting the speed of the conveyor, baking time, and temperature controls, verifying that the desired temperature is reached before loading.
- PC.11** refer to the production chart/proofing chart to understand the loading sequence and process parameters for each product baked
- PC.12** set the oven parameters such as baking temperature and time for the product to be baked
- PC.13** observe filled baking pans (to be loaded in the oven) to determine whether pans are filled to standard
- PC.14** load the ovens with filled baking pans and check that the dough pieces are placed from corner to corner
- PC.15** observe spacing between pans as per defined SOPs
- PC.16** monitor and control the speed of the conveyor to control pans entering the oven and control the baking time of various baking products (in continuous operation)
- PC.17** monitor oven parameters such as temperature and time during baking process

- PC.18** observe the colour of the baking product to detect under/ over baking and to achieve a finished product of uniform quality
- PC.19** unload the oven when the baking process is complete
- PC.20** check the quality of the product through sensory parameters such as colour, size, appearance, texture, and aroma. etc.
- PC.21** unload the pans/trays using proper technique (this must be done immediately after being taken out of the oven to improve the overall shape of the bread)
- PC.22** place the baked product on the cooling racks and transfer it to the cooling room/cooling area
- PC.23** Storage of baked products should be done in such a manner that FIFO is followed.
- PC.24** remove excess waste from the baking pans
- PC.25** stack the emptied baking pans in the designated area
- PC.26** ensure that empty pans are stored appropriately to avoid damage and contamination
- PC.27** adjust or reset the controls of the oven to load the next batch of product
- PC.28** report discrepancies/concerns in each stage of production to the department supervisor for immediate action

Packaging of Baked Products

- PC.29** select appropriate packaging materials based on product type, storage requirements, and presentation needs.
- PC.30** follow packaging procedures to ensure proper sealing, labelling, and coding of baked goods.
- PC.31** inspect packaged products for defects, ensuring quality standards are met.
- PC.32** pack baked goods according to customer orders or standard packaging configurations.
- PC.33** store packaged products in designated areas, maintaining proper temperature and humidity levels.
- PC.34** follow FIFO (First In, First Out) principles for inventory management of packaged goods.
- PC.35** operate automated packaging equipment (if applicable), ensuring smooth product flow and proper sealing.
- PC.36** visually inspect and cleans packaging materials to ensure they are free of debris or damage before use.

Post-production cleaning and regular maintenance of equipment

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

- PC.37** clean and sanitise the work area, machinery, equipment, and tools according to established cleaning schedules and standard operating procedures (SOPs), using appropriate food-grade cleaning agents and sanitisers.
- PC.38** properly disassemble and reassemble equipment for thorough cleaning and sanitation, following manufacturer instructions and safety protocols.
- PC.39** perform routine troubleshooting and minor repairs on baking equipment, following

manufacturer guidelines and safety procedures. Report any major malfunctions or repairs requiring specialised expertise to the appropriate personnel.

- PC.40** implement and maintain a preventative maintenance program for all baking equipment, including regular inspections, cleaning, lubrication, and calibration. Document maintenance activities and follow SOPs for reporting and addressing maintenance needs.
- PC.41** maintain accurate records of equipment maintenance and repairs, including dates, actions taken, and parts used.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Different raw materials (dough/batter) and their characteristics in relation to various baked products.
- KU2.** The distinction between under-proofed and over-proofed dough and their impact on the final product.
- KU3.** Oven heating systems (convection, conduction, radiation), fuel types (gas, electric, wood-fired), and the interpretation of manufacturer instructions for safe and efficient operation.
- KU4.** Company policies, procedures, and safety standards relevant to the baking process.
- KU5.** Food safety principles, hygiene practices (personal hygiene, equipment sanitation), and quality control measures to ensure product safety and consistency.
- KU6.** The application of knowledge about raw materials, products, and processes to make informed decisions during baking operations.
- KU7.** Ovens and proof boxes are operated according to established process parameters to achieve desired product outcomes.
- KU8.** Cleaning procedures (CIP - Cleaning in Place, COP - Cleaning out of Place), the correct use and storage of sanitisers and disinfectants, and their role in maintaining hygiene standards.
- KU9.** The comparison of different types of ovens (deck, rack, revolving, tunnel, etc.) and the selection of the most suitable oven for specific baked products.
- KU10.** Troubleshooting deviations in process parameters (time, temperature, humidity) and their impact on product quality.
- KU11.** The analysis of quality parameters (crust colour, crumb texture, volume, taste) and identifying potential defects in baked goods.
- KU12.** The critical analysis of production efficiency and the formulation of suggestions for optimization.
- KU13.** Monitor and control conveyor speed in continuous oven operations to ensure proper baking times for different products.

- KU14.** Adjusting or resetting automated oven controls to accommodate different batches of products with varying baking requirements.
- KU15.** Accurate measurement and scaling of ingredients using appropriate techniques (weighing, measuring cups/spoons) to guarantee consistent texture, flavour, and yield in baked goods.
- KU16.** Mastery of diverse mixing methods (creaming, folding, whisking, beating) to achieve the desired consistency and texture in doughs and batters based on specific recipes.
- KU17.** The identification and understanding of different leavening agents (yeast, baking powder, baking soda), their roles in promoting dough rise and gas bubble creation, and their impact on the final product.
- KU18.** The importance of proper dough shaping techniques (rolling, molding, scooping)
- KU19.** The principles of heat transfer in baking (conduction, convection, radiation) and the chemical reactions that occur during the baking process (starch gelatinisation, protein denaturation, sugar caramelisation) to adjust oven settings based on product size and desired characteristics.
- KU20.** Safe storage practices for baked goods, including stabilising internal temperature, promoting proper structure, and maintaining freshness.
- KU21.** The different types of automated machinery and software used in bakery production lines (e.g., conveyor systems, packaging machines, inventory management software).
- KU22.** Key automation terminology relevant to the baking industry (e.g., sensors, actuators, PLC - Programmable Logic Controller, SCADA - Supervisory Control and Data Acquisition).
- KU23.** The basic principles of how automated systems function within the bakery production line.
- KU24.** The interaction and balance between automated processes and manual tasks in the overall workflow.
- KU25.** Common types of errors or malfunctions that can occur in automated baking systems.
- KU26.** The operation of control panels or interfaces for automated machinery used in baking.
- KU27.** Basic troubleshooting procedures for addressing routine automation issues in the bakery.
- KU28.** When automation is advantageous in the bakery versus situations where manual intervention may be more efficient or necessary.
- KU29.** The role of Enterprise Resource Planning (ERP) systems in managing production processes, inventory control, and quality assurance in bakery operations.
- KU30.** The utilisation of ERP system data to monitor and improve production efficiency in the bakery.
- KU31.** The use of online cameras for remote monitoring of the baking process and equipment.

- KU32.** Packaging materials and techniques suitable for different baked goods to ensure freshness, prevent contamination, and meet labelling requirements.
- KU33.** Preventative bakery equipment maintenance procedures include cleaning schedules, lubrication, and part replacement.
- KU34.** Common allergens present in baked goods (e.g., wheat, dairy, nuts) and procedures to prevent cross-contamination during processing.

Generic Skills (GS)

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

- GS.1** Read and interpret process requirements, flowcharts, manuals, internal documents, and process parameters for production.
- GS.2** Discuss tasks, schedules, and issues with the supervisor and team members.
- GS.3** Listen attentively to instructions and information.
- GS.4** Question the supervisor for clarification.
- GS.5** Write information documents for internal teams.
- GS.6** Note down observations, process parameters, and other data.
- GS.7** Record data into ERP or organisational systems.
- GS.8** Plan and prioritise work based on instructions.
- GS.9** Organise raw materials, packaging materials, and manuals.
- GS.10** Support the supervisor in scheduling tasks.
- GS.11** Plan for effective use of time and equipment.
- GS.12** Analyse critical points to identify control measures.
- GS.13** Use reasoning, common sense, and intuition to identify and troubleshoot problems.
- GS.14** Discuss possible solutions with the supervisor.
- GS.15** Understand customer requirements and priorities.
- GS.16** Support the supervisor in resolving customer issues.
- GS.17** Handle issues within defined authority in the supervisor's absence.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Handle proofing (in case of bread preparation)</i>	10	20	-	5
To be competent, the user/individual on the job must be able to:	-	-	-	-
PC.1 set the proof box to the required temperature and humidity following the proofing chart, as per specifications and organisation standards	-	-	-	-
PC.2 refer to the production chart/proofing chart to understand the loading sequence	-	-	-	-
PC.3 load the proof box following the production sequence	-	-	-	-
PC.4 monitor proof box parameters such as temperature/humidity	-	-	-	-
PC.5 monitor product in the proof box	-	-	-	-
PC.6 pull bread at specified heights from proof box	-	-	-	-
PC.7 monitor the proof box and product coming out of the proof box	-	-	-	-
<i>Baking in oven</i>	10	20	-	5
To be competent, the user/individual on the job must be able to:	-	-	-	-
PC.8 Prepare the proof box by setting parameters such as temperature, humidity, etc., according to product specifications and standard operating procedures.	-	-	-	-
PC.9 Prepare and calibrate the oven (in case of batch operation) by pre-heating it to the specified temperature per the oven chart, ensuring it reaches the desired temperature before loading.	-	-	-	-
PC.10 Prepare the conveyor (in case of continuous operation) by setting the speed of the conveyor, baking time, and temperature controls, verifying that the desired temperature is reached before loading.	-	-	-	-
PC.11 refer to the production chart/proofing chart to understand the loading sequence and process parameters for each product baked	-	-	-	-
PC.12 set the oven parameters such as baking temperature and time for the product to be baked	-	-	-	-
PC.13 observe filled baking pans (to be loaded in the oven) to determine whether pans are filled to standard	-	-	-	-
PC.14 load the ovens with filled baking pans and check that the dough pieces are placed from corner to corner	-	-	-	-
PC.15 observe spacing between pans as per defined SOPs	-	-	-	-

PC.16 monitor and control the speed of the conveyor to control pans entering the oven and control the baking time of various baking products (in continuous operation)	-	-	-	-
PC.17 monitor oven parameters such as temperature and time during baking process	-	-	-	-
PC.18 observe the colour of the baking product to detect under/ over baking and to achieve a finished product of uniform quality	-	-	-	-
PC.19 unload the oven when the baking process is complete	-	-	-	-
PC.20 check the quality of the product through sensory parameters such as colour, size, appearance, texture, and aroma. etc.	-	-	-	-
PC.21 unload the pans/trays using proper technique (this must be done immediately after being taken out of the oven to improve the overall shape of the bread)	-	-	-	-
PC.22 place the baked product on the cooling racks and transfer it to the cooling room/cooling area	-	-	-	-
PC.23 Storage of baked products should be done in such a manner that FIFO is followed.	-	-	-	-
PC.24 remove excess waste from the baking pans	-	-	-	-
PC.25 stack the emptied baking pans in the designated area	-	-	-	-
PC.26 ensure that empty pans are stored appropriately to avoid damage and contamination	-	-	-	-
PC.27 adjust or reset the controls of the oven to load the next batch of product	-	-	-	-
PC.28 report discrepancies/concerns in each stage of production to the department supervisor for immediate action	-	-	-	-
<i>Packaging of Baked Products</i>	4	6	-	5
PC.29 select appropriate packaging materials based on product type, storage requirements, and presentation needs.	-	-	-	-
PC.30 follow packaging procedures to ensure proper sealing, labelling, and coding of baked goods.	-	-	-	-
PC.31 inspect packaged products for defects, ensuring quality standards are met.	-	-	-	-
PC.32 pack baked goods according to customer orders or standard packaging configurations.	-	-	-	-
PC.33 store packaged products in designated areas, maintaining proper temperature and humidity levels.	-	-	-	-
PC.34 follow FIFO (First In, First Out) principles for inventory management of packaged goods.	-	-	-	-

PC.35 operate automated packaging equipment (if applicable), ensuring smooth product flow and proper sealing.	-	-	-	-
PC.36 visually inspect and clean packaging materials to ensure they are free of debris or damage before use.	-	-	-	-
<i>Post-production cleaning and regular maintenance of equipment</i>	4	6	-	5
To be competent, the user/individual on the job must be able to:	-	-	-	-
PC.37 clean and sanitise the work area, machinery, equipment, and tools according to established cleaning schedules and standard operating procedures (SOPs), using appropriate food-grade cleaning agents and sanitisers.	-	-	-	-
PC.38 properly disassemble and reassemble equipment for thorough cleaning and sanitation, following manufacturer instructions and safety protocols.	-	-	-	-
PC.39 perform routine troubleshooting and minor repairs on baking equipment, following manufacturer guidelines and safety procedures. Report any major malfunctions or repairs requiring specialised expertise to the appropriate personnel.	-	-	-	-
PC.40 implement and maintain a preventative maintenance program for all baking equipment, including regular inspections, cleaning, lubrication, and calibration. Document maintenance activities and follow SOPs for reporting and addressing maintenance needs.	-	-	-	-
PC.41 maintain accurate records of equipment maintenance and repairs, including dates, actions taken, and parts used.	-	-	-	-
NOS Total	28	52	-	20

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N5019
NOS Name	Bake bakery products in the oven
Sector	Food Processing
Sub-Sector	Bread and Bakery
Occupation	Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	27/08/2024
Next Review Date	26/08/2027
NSQC Clearance Date	27/08/2024

FIC/N9906: Apply Food Safety Guidelines in Food Processing

Description

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

Scope

The scope covers the following:

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

Elements and Performance Criteria

Perform safety and sanitation-related functions for storage

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

- PC.1** follow a site-relevant documented procedure for Personal Hygiene and Visitor/Contractor rules.
- PC.2** follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines
- PC.3** ensures that the annual training calendar is followed vehemently for every individual to make them aware of SOPs, personal hygiene, PRPs, GMP, GHP, HACCP, and plant hygiene.
- PC.4** follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation and feedback system.
- PC.5** Organise orientation on recent developments in the baking process
- PC.6** ensure timely medical examination from a prescribed and authorised doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.
- PC.7** fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.
- PC.8** follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site. (hand washing requirements, gowning and de-gowning protocols, cleaning and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like low risk, high risk, high care areas, etc.)
- PC.9** follow man and materials movement throughout the production facility, to restrict unwanted hazards to cross-contaminate the products.
- PC.10** follow all validated Do's and don'ts inside a food manufacturing unit.

- PC.11** refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line
- PC.12** identify the material requirements such as manufacturing equipment, Utensils, other processing aids, food-grade cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to allergens and their risks wherever required; the allergen requirements shall be separately addressed.
- PC.13** ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.
- PC.14** participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.
- PC.15** ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.
- PC.16** A pest control program shall be in place. There should be a nominated person for pest control to monitor schedule of pest control and to ensure all procedures are followed
- PC.17** Ensure adequate lightning and ventilation available in production and storage area as per factory act
- PC.18** Ensure production and storage areas have adequate lighting and ventilation as per Factory Act regulations.

Implement food safety practices at the workplace

- PC.19** maintain updated facilities, equipment, tools and design requirements to minimise the risks associated with the products being handled at the site.
- PC.20** follow the instructions in the raw and packaging materials warehouse and ensure receiving material parameters match all the requirements. Parameters: Incoming vehicles, visual report, storage and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted and rejected goods, monitoring temperature and humidity, etc.
- PC.21** follow FSSAI Schedule IV requirements related to pest control, cleaning and sanitation, utilities, waste disposal, prevention of cross-contamination, allergen management, corrective actions, preventive actions, food operation control, etc.
- PC.22** ensure timely check of the critical control points (CCPs) and product parameters
- PC.23** record-keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.
- PC.24** report any food safety and GMP issues to the supervisor (if any).

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** importance of personal hygiene, GMP, visitors, and contractor's rules. Associated risk in case of deviation from the standard policies and how the requirement is linked with the site's FSSAI License

- KU2.** importance of training and work instruction delivered by the supervisors.
- KU3.** importance of filling the records and checklists, formats and how to ensure that the timely and effective completion is achieved.
- KU4.** knowledge of trainings and skills required to perform in food processing premises.
- KU5.** understand FSSAI Schedule IV requirements of food handlers and PRPs within the processing area
- KU6.** importance of timely medical examinations and awareness of communicable diseases
- KU7.** Understanding of Do's & Don'ts, intellect mindset to understand the visual illustrations
- KU8.** understanding about Site Zoning plans.
- KU9.** awareness of layout which would help to demarcate the defined movements of RM, PM, FG, and wastes generated during the processing of goods. This one lays a framework to launch Good Manufacturing Practices (GMP) successfully and effectively on site
- KU10.** understand the manufacturing process, product parameters and process control parameters such as CCPs
- KU11.** understanding about Hazard Analysis and Critical Control Points (HACCP)
- KU12.** understanding about Allergens and their types and controls to monitor effective handling of allergen raw materials on site.
- KU13.** basic understanding of traceability and mock recall
- KU14.** awareness about Internal & external Audits
- KU15.** understanding for RCA CAPA, cleaning and sanitation
- KU16.** awareness about record keeping and data monitoring in various sheets as per organisational requirement
- KU17.** Understanding pest control program
- KU18.** Understand Waste management

Generic Skills (GS)

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

- GS.1** read and comprehend basic content to read labels, charts, signages, symbols and product manuals
- GS.2** communicate with coworkers appropriately to clarify instructions and other issues
- GS.3** plan and organise the work schedule, work area, tools, equipment, and materials for improved productivity
- GS.4** plan and prioritise tasks as per work requirements
- GS.5** always be punctual and courteous
- GS.6** good observations and intellect mindset

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Apply personal hygiene and follow Good Manufacturing practices at workplace</i>	2 2	4 4	-	6
PC1. follow a site-relevant documented procedure for Personal Hygiene and Visitor/Contractor rules.	-	-	-	-
PC2. follow work instructions at levels of employees inside a food manufacturing site and ensure that the relevant instructions are well communicated and being followed at the fixed timelines	-	-	-	-
PC3. ensures that the annual training calendar is followed vehemently for every individual to make them aware of SOPs, personal hygiene, PRPs, GMP, GHP, HACCP, and plant hygiene.	-	-	-	-
PC4. follow and implement all training and awareness guidelines in the manufacturing area and regularly participate in training effectiveness for evaluation and feedback system.	-	-	-	-
PC5. Organise orientation on recent developments in the baking process	-	-	-	-
• PC6. ensure timely medical examination from a prescribed and authorised doctor and comply with the guidelines of Schedule IV as described in Food Safety Standard Authority of India (FSSAI) guidelines.	-	-	-	-
PC7. fill in data in the daily monitoring checklist related to personal hygiene, food safety, and GMP.	-	-	-	-
PC8. follow a site-relevant documented procedure and area-wise work instructions for Good Manufacturing Practices (GMP) to be followed on the site. (hand washing requirements, gowning and de-gowning protocols, cleaning and sanitation of employee lockers, follow the protocols as laid down in the different categories of processing areas like low risk, high risk, high care areas, etc.).	-	-	-	-

PC9. follow man and materials movement throughout the production facility, to restrict unwanted hazards to cross-contaminate the products.	-	-	-	-
PC10. follow all validated Do's and don'ts inside a food manufacturing unit.	-	-	-	-
PC11. refer to the process flow charts, HACCP summary plan, and critical process parameters in each and respective areas of the production line.	-	-	-	-
PC12. identify the material requirements such as manufacturing equipment, Utensils, other processing aids, food-grade cleaning chemicals, and cleaning work instructions in all the relevant areas of the manufacturing facility. Also, a special focus shall be given to allergens and their risks wherever required; the allergen requirements shall be separately addressed.	-	-	-	-
PC13. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site.	-	-	-	-
PC14. participate in audits and address the aspects of Good Manufacturing Procedures, personal hygiene, and food safety.	-	-	-	-
PC15. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.				
PC16. A pest control program shall be in place. There should be a nominated person for pest control to monitor schedule of pest control and to ensure all procedures are followed				
PC17. Ensure adequate lightning and ventilation available in production and storage area as per factory act				

PC18. Ensure production and storage areas have adequate lighting and ventilation as per Factory Act regulations.				
<i>Implement food safety practices at the workplace</i>	8	16	-	4
PC19. maintain updated facilities, equipment, and tool and design requirements to minimise the risks associated with the products being handled at the site.	-	-	-	-
PC20. follow the instruction in the raw and packaging materials warehouse and ensure receiving material parameters match all the laid requirements. parameters: Incoming vehicles Visual report, storage, and handling requirements, hazardous and non-hazardous goods, allergens, cross-contamination risks, Quarantine, Accepted & rejected goods, monitoring temperature and humidity, etc.	-	-	-	-
PC21. follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.	-	-	-	-
PC22. ensure timely check of the critical control points and product parameters	-	-	-	-
PC23. record keeping and documentation such as daily monitoring sheets, cleaning sheets, parameters, etc.	-	-	-	-
PC24. report any food safety and GMP issue to the supervisor, if any.	-	-	-	-
NOS Total	30	60	-	10

National Occupational Standards (NOS) Parameters

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

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

PC.1 understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

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

PC.2 identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC.3 explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

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

PC.4 speak with others using some basic English phrases or sentences

Communication Skills

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

PC.5 follow good manners while communicating with others

PC.6 work with others in a team

Diversity & Inclusion

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

PC.7 communicate and behave appropriately with all genders and PwD

PC.8 report any issues related to sexual harassment

Financial and Legal Literacy

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

PC.9 use various financial products and services safely and securely

PC.10 calculate income, expenses, savings etc.

PC.11 approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

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

PC.12 operate digital devices and use its features and applications securely and safely

PC.13 use internet and social media platforms securely and safely

Entrepreneurship

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

PC.14 identify and assess opportunities for potential business

PC.15 identify sources for arranging money and associated financial and legal challenges

Customer Service

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

PC.16 identify different types of customers

PC.17 identify customer needs and address them appropriately

PC.18 follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC.19 create a basic biodata

PC.20 search for suitable jobs and apply

PC.21 identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. need for employability skills
- KU2. various constitutional and personal values
- KU3. different environmentally sustainable practices and their importance
- KU4. Twenty first (21st) century skills and their importance
- KU5. how to use basic spoken English language
- KU6. Do and dont of effective communication
- KU7. inclusivity and its importance
- KU8. different types of disabilities and appropriate communication and behaviour towards PwD
- KU9. different types of financial products and services
- KU10. how to compute income and expenses
- KU11. importance of maintaining safety and security in financial transactions
- KU12. different legal rights and laws
- KU13. how to operate digital devices and applications safely and securely
- KU14. ways to identify business opportunities
- KU15. types of customers and their needs
- KU16. how to apply for a job and prepare for an interview
- KU17. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

- GS.1 communicate effectively using appropriate language
- GS.2 behave politely and appropriately with all
- GS.3 perform basic calculations
- GS.4 solve problems effectively
- GS.5 be careful and attentive at work
- GS.6 use time effectively
- GS.7 maintain hygiene and sanitisation to avoid infection

Assessment Criteria

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

<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	20	30	-	-

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	17/11/2022
Next Review Date	29/09/2024
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.
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	20	40	-	-	60	20
FIC/N5018.Prepare for baking products in the oven	35	65	15-	-	100	
FIC/N5019.Bake bakery products in the oven	35	65	15	-	100	
FIC/N9906. Apply food safety guidelines in Food Processing	30	60	-	10	100	20
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	30	0	50	5
Total	140	260	30	10	410	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	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 specialisation in a job role. There may be multiple electives within a QP for each specialised 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.