

Qualification Pack



Production Manager

QP Code: FIC/Q9003

Version: 1.0

NSQF Level: 7

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Qualification Pack

Contents

FIC/Q9003: Production Manager	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
FIC/N9014: Manage production process in food processing unit	5
FIC/N9015: Manage production optimization and cost efficiency in food processing unit	16
FIC/N9016: Manage documentation system and implement safety and environmental policies	24
Assessment Guidelines and Weightage	30
<i>Assessment Guidelines</i>	30
<i>Assessment Weightage</i>	31
Acronyms	32
Glossary	33

Qualification Pack

FIC/Q9003: Production Manager

Brief Job Description

A Production Manager is responsible for production of food products through the process of production planning, coordinating and controlling production process to achieve desired quantity and quality of products.

Personal Attributes

A Production Manager must have the ability to read, write, communicate, plan, organize and prioritize. S/he must possess mathematical organizational and analytical skills, ability to concentrate, physical stamina, mechanical aptitude and trouble shooting skills and have an understanding of food safety standards and requirements.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N9014: Manage production process in food processing unit](#)
2. [FIC/N9015: Manage production optimization and cost efficiency in food processing unit](#)
3. [FIC/N9016: Manage documentation system and implement safety and environmental policies](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Fruits and Vegetables, Food Grain Milling, Dairy Products, Meat and Poultry, Fish and Sea Food, Bread and Bakery, Alcoholic Beverages, Aerated Water/Soft Drinks, Soya Food, Packaged Foods, Packing and Refrigeration
Occupation	Processing
Country	India
NSQF Level	7
Aligned to NCO/ISCO/ISIC Code	NCO-2004/1222.70

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Minimum Educational Qualification & Experience	Graduate (Engineering) with 0-1 Year of experience Food processing unit
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	1. ISO2. HACCP3. Integrated Management System4. Food Safety Standards and Regulations (as per FSSAI)
Minimum Job Entry Age	21 Years
Last Reviewed On	04/09/2018
Next Review Date	31/03/2022
Deactivation Date	31/03/2022
NSQC Approval Date	03/03/2017
Version	1.0
Reference code on NQR	2017/FI/FICSI/01756
NQR Version	1.0

Qualification Pack

FIC/N9014: Manage production process in food processing unit

Description

This OS unit is about managing production process in food processing units.

Scope

This unit/task covers the following:

Elements and Performance Criteria

Provide leadership to production team Schedule production

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

- PC1.** communicate the organisation policies and goals clearly to the employees of production team, make them understand and commit their energy and expertise to achieve organisation goals
- PC2.** achieve department targets and organisation goals by understanding the organisation and employees, developing a leadership style and applying them appropriately
- PC3.** communicate with employees regularly and effectively, help them identify their strengths, provide support to overcome their weakness, listen to their grievances and provide appropriate solutions, and win their trust and support
- PC4.** motivate and support employees to achieve their work and development objectives, and provide recognition when they are successful
- PC5.** encourage employees to take responsibilities, to take own decisions within agreed boundaries, to take lead in their own areas of expertise for their development
- PC6.** initiate personnel actions, such as promotions, transfers, discharges or disciplinary measures
- PC7.** lead production department and team successfully through difficulties and challenges
- PC8.** review the sales forecast for the week/month (or) monthly production plan discussed with plant manager (or) customer requirement (as applicable) and identify production priorities to meet market requirement
- PC9.** identify and confirm resource availability such as raw materials, packing materials, equipment availability and capacity, production capacity, manpower requirement and availability, stock level, storage capacity, transport capacity etc
- PC10.** plan details of production in terms of output quantity and quality, cost, time and manpower requirements
- PC11.** analyze the consequences of failing to meet production/delivery timelines to meet the schedule, notify relevant authorities of any possibility that demand cannot be met within required timeframe
- PC12.** develop production schedule to meet market demands/priorities and delivery timelines within budget and with available resources, consult production plan with inter department heads and production supervisor, instruct supervisor to allocate work to production team
- PC13.** communicate the production schedule to cross function heads through communication system followed by the organisation such as e-mail or upload in the ERP system

Co-ordinate maintenance

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

- PC14.** identify and confirm equipment requirements to meet production target, share production schedule with equipment requirement to maintenance manager/supervisor for maintenance plan that aligns with production plan
- PC15.** co-ordinate with maintenance manager/supervisor to understand materials, consumables and manpower requirement and availability for maintenance activities, for uninterrupted production
- PC16.** understand equipment maintenance process and procedure and co-ordinate for maintenance activities during breakdown, emergency response, routine cleaning and servicing, etc.
- PC17.** analyze equipment maintenance data to interpret equipment performance and arrive at production capability of each process equipment
- PC18.** co-ordinate with maintenance team to ensure reliable equipment performance with minimal disruption to production, to minimize down time during equipment breakdowns, and to optimize equipment efficiency to achieve production target
- PC19.** lead and build team spirit between production and maintenance personnel through effective communication to enhance equipment performance and to identify production improvement opportunities
- PC20.** ensure maintenance procedures are followed meet food safety and environmental requirements

Mange Production

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

- PC21.** monitor production process for usage of raw materials, packaging materials, manpower, wastage against production plan and identify reason for variances against plan
- PC22.** address the reason for variation in achieving production schedule, production target within allocated budget
- PC23.** adjust production schedule in response to variables affecting achievement of production target
- PC24.** monitor production output and cost, adjust processes and resources to minimize cost and to achieve quantity and quality product
- PC25.** reschedule production plan in case of urgent requirement or any unforeseen event, to minimize wastage and to utilize materials/utilities and resources efficiently, discuss and negotiate changes with inter department team on time for their support and team work
- PC26.** review production schedule and process, consult /discuss with supervisor, team and cross function teams identify opportunities for improvement and develop recommendations for improvement on production process
- PC27.** set polices, plans and procedures, and take initiative to implement the identified improvement opportunities to control cost and to achieve better yield and quality
- PC28.** monitor, review and ensure production details are documented to meet the documentation requirements of the organisation, and to meet audit requirements like ISO, HACCP, etc.

Manage new product trials

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

- PC29.** understand objective of trial production, trial product processing method and specification, select production team for trial, discuss with cross function team like planning, QA, maintenance etc, clarify roles and responsibilities and level of authority to the team and cross function

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- PC30.** Prepare technical production procedures considering all engineering and process parameters for new product trial, educate and train supervisors and operators on trial procedure
- PC31.** Identify and consider all possible hazards, prepare plan and procedures to prevent and control hazards, provide training to trial team to handle hazards
- PC32.** Prepare detailed trial production schedule to manage production process without overlapping/affecting with regular production, and considering availability of raw materials and packaging materials, machine availability and capability, man power availability and competency etc
- PC33.** Monitor trial production against plan to identify variances and factors that need to be adjusted to achieve product of required specification within the planned time
- PC34.** Document and evaluate trial production data and identify process/parameters to be modified/changed to achieve product of required specification
- PC35.** Prepare trial production report with recommendations on improvement opportunities, and share with cross function heads and relevant authorities for suggestion and consideration

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organisaiton goals and policies
- KU2.** business processes of the organisation
- KU3.** production management
- KU4.** food regualtory system related to the process and products produced in the organisation
- KU5.** resource management
- KU6.** manpower modelling and handling
- KU7.** code of business conduct
- KU8.** risk analysis and risk management
- KU9.** principles and methods of planning for regular and contingency situations
- KU10.** methods to monitor and control operational plans to achieve objectives
- KU11.** methods to communicate with people of varying nature and in different situations
- KU12.** methods to identify and address difficulties and challenges
- KU13.** production management and production process for products produced in the organisation
- KU14.** process equipment design, capability, operation and maintenance
- KU15.** process improvement tools and techniques
- KU16.** methods to identify and assess current performance and identify improvement opportunities and proposals
- KU17.** basic maintenance approaches and models
- KU18.** methods to analyze process information
- KU19.** statistical tools analyse process capability
- KU20.** methods to measure effectiveness of production process and maintenance
- KU21.** food regulatory systems like FSSAI
- KU22.** GMP
- KU23.** GHP

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KU24. HACCP

KU25. QMS

Generic Skills (GS)

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

- GS1.** note the information communicated
- GS2.** note the raw materials used for production and the finished products produced
- GS3.** note the readings of the process parameters and provide necessary information to fill the process chart
- GS4.** note down observations (if any) related to the process
- GS5.** write information documents to internal departments/ internal teams
- GS6.** note down the data for online ERP or as per applicability in the organization
- GS7.** read and interpret the process required for producing various types of products
- GS8.** read and interpret and process flowchart for all products produced
- GS9.** read equipment manuals and process documents to understand the equipments operation and process requirement
- GS10.** read internal information documents sent by internal teams
- GS11.** discuss task lists, schedules and activities
- GS12.** effectively communicate with team members
- GS13.** question 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 on the issues being 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 manager is not available (as per the authority matrix defined by the organization)
- GS18.** plan and organize the work order and jobs received
- GS19.** organize raw materials and packaging materials required for all products
- GS20.** plan and prioritize the work based on the instructions received
- GS21.** plan to utilise time and equipment's effectively
- GS22.** organize all process/ equipment manuals so as to access information easily
- GS23.** support the manager in scheduling tasks for helper(s)
- GS24.** understand customer requirements and their priority and respond as per their needs
- GS25.** support manager in solving problems by detailing out problems
- GS26.** discuss the possible solutions with the manager 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



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GS31. use acquired knowledge of the process for identifying and handling issues

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Provide leadership to production team Schedule production</i>	13	23.5	-	-
PC1. communicate the organisation policies and goals clearly to the employees of production team, make them understand and commit their energy and expertise to achieve organisation goals	1	1.5	-	-
PC2. achieve department targets and organisation goals by understanding the organisation and employees, developing a leadership style and applying them appropriately	1	1.5	-	-
PC3. communicate with employees regularly and effectively, help them identify their strengths, provide support to overcome their weakness, listen to their grievances and provide appropriate solutions, and win their trust and support	1	2	-	-
PC4. motivate and support employees to achieve their work and development objectives, and provide recognition when they are successful	1	1.5	-	-
PC5. encourage employees to take responsibilities, to take own decisions within agreed boundaries, to take lead in their own areas of expertise for their development	1	1.5	-	-
PC6. initiate personnel actions, such as promotions, transfers, discharges or disciplinary measures	1	2	-	-
PC7. lead production department and team successfully through difficulties and challenges	1	2	-	-
PC8. review the sales forecast for the week/month (or) monthly production plan discussed with plant manager (or) customer requirement (as applicable) and identify production priorities to meet market requirement	1	2	-	-
PC9. identify and confirm resource availability such as raw materials, packing materials, equipment availability and capacity, production capacity, manpower requirement and availability, stock level, storage capacity, transport capacity etc	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. plan details of production in terms of output quantity and quality, cost, time and manpower requirements	1	2	-	-
PC11. analyze the consequences of failing to meet production/delivery timelines to meet the schedule, notify relevant authorities of any possibility that demand cannot be met within required timeframe	1	2	-	-
PC12. develop production schedule to meet market demands/priorities and delivery timelines within budget and with available resources, consult production plan with inter department heads and production supervisor, instruct supervisor to allocate work to production team	1	2	-	-
PC13. communicate the production schedule to cross function heads through communication system followed by the organisation such as e-mail or upload in the ERP system	1	1.5	-	-
<i>Co-ordinate maintenance</i>	7	12	-	-
PC14. identify and confirm equipment requirements to meet production target, share production schedule with equipment requirement to maintenance manager/supervisor for maintenance plan that aligns with production plan	1	1.5	-	-
PC15. co-ordinate with maintenance manager/supervisor to understand materials, consumables and manpower requirement and availability for maintenance activities, for uninterrupted production	1	2	-	-
PC16. understand equipment maintenance process and procedure and co-ordinate for maintenance activities during breakdown, emergency response, routine cleaning and servicing, etc.	1	1.5	-	-
PC17. analyze equipment maintenance data to interpret equipment performance and arrive at production capability of each process equipment	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. co-ordinate with maintenance team to ensure reliable equipment performance with minimal disruption to production, to minimize down time during equipment breakdowns, and to optimize equipment efficiency to achieve production target	1	2	-	-
PC19. lead and build team spirit between production and maintenance personnel through effective communication to enhance equipment performance and to identify production improvement opportunities	1	1.5	-	-
PC20. ensure maintenance procedures are followed meet food safety and environmental requirements	1	1.5	-	-
<i>Mange Production</i>	8	16	-	-
PC21. monitor production process for usage of raw materials, packaging materials, manpower, wastage against production plan and identify reason for variances against plan	1	2	-	-
PC22. address the reason for variation in achieving production schedule, production target within allocated budget	1	2	-	-
PC23. adjust production schedule in response to variables affecting achievement of production target	1	2	-	-
PC24. monitor production output and cost, adjust processes and resources to minimize cost and to achieve quantity and quality product	1	2	-	-
PC25. reschedule production plan in case of urgent requirement or any unforeseen event, to minimize wastage and to utilize materials/utilities and resources efficiently, discuss and negotiate changes with inter department team on time for their support and team work	1	2	-	-
PC26. review production schedule and process, consult /discuss with supervisor, team and cross function teams identify opportunities for improvement and develop recommendations for improvement on production process	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC27. set polices, plans and procedures, and take initiative to implement the identified improvement opportunities to control cost and to achieve better yield and quality	1	2	-	-
PC28. monitor, review and ensure production details are documented to meet the documentation requirements of the organisation, and to meet audit requirements like ISO, HACCP, etc.	1	2	-	-
<i>Manage new product trials</i>	7	13.5	-	-
PC29. understand objective of trial production, trial product processing method and specification, select production team for trial, discuss with cross function team like planning, QA, maintenance etc, clarify roles and responsibilities and level of authority to the team and cross function	1	2	-	-
PC30. Prepare technical production procedures considering all engineering and process parameters for new product trial, educate and train supervisors and operators on trial procedure	1	2	-	-
PC31. Identify and consider all possible hazards, prepare plan and procedures to prevent and control hazards, provide training to trial team to handle hazards	1	1.5	-	-
PC32. Prepare detailed trial production schedule to manage production process without overlapping/affecting with regular production, and considering availability of raw materials and packaging materials, machine availability and capability, man power availability and competency etc	1	2	-	-
PC33. Monitor trial production against plan to identify variances and factors that need to be adjusted to achieve product of required specification within the planned time	1	2	-	-
PC34. Document and evaluate trial production data and identify process/parameters to be modified/changed to achieve product of required specification	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC35. Prepare trial production report with recommendations on improvement opportunities, and share with cross function heads and relevant authorities for suggestion and consideration	1	2	-	-
NOS Total	35	65	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9014
NOS Name	Manage production process in food processing unit
Sector	Food Processing
Sub-Sector	Fruits and Vegetables, Food Grain Milling, Dairy Products, Meat and Poultry, Fish and Sea Food, Bread and Bakery, Alcoholic Beverages, Aerated Water/Soft Drinks, Soya Food, Packaged Foods, Packing and Refrigeration
Occupation	Processing
NSQF Level	7
Credits	TBD
Version	1.0
Last Reviewed Date	04/09/2018
Next Review Date	31/03/2022
Deactivation Date	31/03/2022
NSQC Clearance Date	03/03/2017

Qualification Pack

FIC/N9015: Manage production optimization and cost efficiency in food processing unit

Description

This OS unit is about managing production optimization and cost efficiency, and managing production within budget in food processing unit

Scope

This unit/task covers the following:

Elements and Performance Criteria

Optimize production

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

- PC1.** review production reports and analyze equipment performance, process capability, change over time, maintenance, consumables, power etc, to identify factors that affect performance of production and recommend improvement opportunities
- PC2.** compile performance data on process and equipment to identify cause for lack of performance, evaluate opportunities to improve, identify cost saving options, propose changes in process, and implement proposal with proper approvals
- PC3.** review production process with supervisor and machine operators to identify reasons for slowdown or stop of production process, provide recommendations to overcome efficiency issues, take feedback, develop plans for implementing recommended changes, monitor changes implemented, and review changes and improvement

Manage utilities and energy for a production process

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

- PC4.** calculate utilities and energy usage in production area and for production process, identify methods to minimize usage
- PC5.** develop plans and procedures to minimize use of utilities and energy without affecting the production efficiency
- PC6.** identify energy and utility losses or sources of waste, analyze reason, recommend methods to improve efficient energy/utility application, ensure recommendations are implemented, and monitor improvement
- PC7.** identify areas where utilities and energy can be saved, and identify methods to save energy like recycling energy and utilities such as steam, heat and water, following proper maintenance methods to avoid leaks and losses etc, and prepare efficient production schedule such that target is met with efficient utilization of energy and utility
- PC8.** analyze usage pattern of energy and other utilities in production area and process against budget allocation, identify cost effective options for minimizing wastage, and implement changes

Implement change in production process

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

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- PC9.** identify system, production process that need to be changed, identify opportunities for implementing change in production process, analyze impact of change on product quality, impact on the team and present production process
- PC10.** communicate with relevant authorities/superiors the need for change, results and benefits expected out of change
- PC11.** design new processes, procedures, systems, structures with roles and responsibilities, key performance indicators, training needs, safety system, contingency plans, monitoring and reporting system to implement planned changes in production process
- PC12.** provide training and support to implement changes, develop a strategy to help teams implement change
- PC13.** monitor changes implemented in production process and ensure changes are effective and meet the organisation and regulatory requirements
- PC14.** document and communicate the progress achieved through implemented change to the management and everyone involved, and make them understand and enjoy achievement
- PC15.** recognize and reward employees and teams for implementing change in production system and achieving better efficiency

Manage production within budget

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

- PC16.** manage budget efficiently by managing production with available resource, by avoiding overtime and too many casual workers/helpers
- PC17.** plan effectively to secure, confirm and allocate required manpower to meet production target within budget, monitor resource utilization, to achieve production target within existing resource
- PC18.** identify situations where actual budget exceeds the approved budget, investigate reason for variance and take appropriate corrective action to keep budget under control
- PC19.** identify the impact on budget of production-related decisions like scheduling holidays, adjusting production volume, scheduling equipment maintenance etc, before scheduling production, and identify opportunities to improve performance against budget
- PC20.** identify the causes for any significant variances in budget control, discuss with team and ensure prompt corrective action is taken to keep expenditure under control
- PC21.** encourage team to think and identify ways of reducing expenditure, analyze and pursue the suggested ideas

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organisaiton policies and goals
- KU2.** principles and processes involved in business
- KU3.** organization strategy, policies, proecdures and standards
- KU4.** financial and accounting procedures of the organisation
- KU5.** budget management
- KU6.** code of business conduct
- KU7.** manpower modelling and handling

Qualification Pack

- KU8.** production management and production process for products produced in the organisation
- KU9.** process equipment design, capability, operation and maintenance
- KU10.** process improvement tools and techniques
- KU11.** methods to identify and assess current performance and identify improvement opportunities and proposals
- KU12.** methods to analyze process information
- KU13.** statistical tools to analyse process capability
- KU14.** methods to calculate energy usage and methods save energy
- KU15.** analyzing process, procedures, policies and structure that need to be changed
- KU16.** reason for implementing changes, risks and benefits expected out of changes planned and implemented
- KU17.** methods to assess the benefits and risks associated with change
- KU18.** methods to influence change process in the management
- KU19.** accounting models to manage budget
- KU20.** budgetary systems, methods to monitor, control and evaluate performance against budgets
- KU21.** food regulatory system like fssai
- KU22.** GMP
- KU23.** GHP
- KU24.** HACCP
- KU25.** QMS
- KU26.** ISO
- KU27.** OHSAS

Generic Skills (GS)

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

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

Qualification Pack

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

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Optimize production</i>	4	10	-	-
PC1. review production reports and analyze equipment performance, process capability, change over time, maintenance, consumables, power etc, to identify factors that affect performance of production and recommend improvement opportunities	1	4	-	-
PC2. compile performance data on process and equipment to identify cause for lack of performance, evaluate opportunities to improve, identify cost saving options, propose changes in process, and implement proposal with proper approvals	1	3	-	-
PC3. review production process with supervisor and machine operators to identify reasons for slowdown or stop of production process, provide recommendations to overcome efficiency issues, take feedback, develop plans for implementing recommended changes, monitor changes implemented, and review changes and improvement	2	3	-	-
<i>Manage utilities and energy for a production process</i>	10	15	-	-
PC4. calculate utilities and energy usage in production area and for production process, identify methods to minimize usage	2	3	-	-
PC5. develop plans and procedures to minimize use of utilities and energy without affecting the production efficiency	2	3	-	-
PC6. identify energy and utility losses or sources of waste, analyze reason, recommend methods to improve efficient energy/utility application, ensure recommendations are implemented, and monitor improvement	2	3	-	-
PC7. identify areas where utilities and energy can be saved, and identify methods to save energy like recycling energy and utilities such as steam, heat and water, following proper maintenance methods to avoid leaks and losses etc, and prepare efficient production schedule such that target is met with efficient utilization of energy and utility	2	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC8. analyze usage pattern of energy and other utilities in production area and process against budget allocation, identify cost effective options for minimizing wastage, and implement changes	2	3	-	-
<i>Implement change in production process</i>	10	22	-	-
PC9. identify system, production process that need to be changed, identify opportunities for implementing change in production process, analyze impact of change on product quality, impact on the team and present production process	2	3	-	-
PC10. communicate with relevant authorities/superiors the need for change, results and benefits expected out of change	1	3	-	-
PC11. design new processes, procedures, systems, structures with roles and responsibilities, key performance indicators, training needs, safety system, contingency plans, monitoring and reporting system to implement planned changes in production process	2	3	-	-
PC12. provide training and support to implement changes, develop a strategy to help teams implement change	1	3	-	-
PC13. monitor changes implemented in production process and ensure changes are effective and meet the organisation and regulatory requirements	1	4	-	-
PC14. document and communicate the progress achieved through implemented change to the management and everyone involved, and make them understand and enjoy achievement	2	3	-	-
PC15. recognize and reward employees and teams for implementing change in production system and achieving better efficiency	1	3	-	-
<i>Manage production within budget</i>	11	18	-	-
PC16. manage budget efficiently by managing production with available resource, by avoiding overtime and too many casual workers/helpers	2	3	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC17. plan effectively to secure, confirm and allocate required manpower to meet production target within budget, monitor resource utilization, to achieve production target within existing resource	2	3	-	-
PC18. identify situations where actual budget exceeds the approved budget, investigate reason for variance and take appropriate corrective action to keep budget under control	2	3	-	-
PC19. identify the impact on budget of production-related decisions like scheduling holidays, adjusting production volume, scheduling equipment maintenance etc, before scheduling production, and identify opportunities to improve performance against budget	2	3	-	-
PC20. identify the causes for any significant variances in budget control, discuss with team and ensure prompt corrective action is taken to keep expenditure under control	2	3	-	-
PC21. encourage team to think and identify ways of reducing expenditure, analyze and pursue the suggested ideas	1	3	-	-
NOS Total	35	65	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9015
NOS Name	Manage production optimization and cost efficiency in food processing unit
Sector	Food Processing
Sub-Sector	Fruits and Vegetables, Food Grain Milling, Dairy Products, Meat and Poultry, Fish and Sea Food, Bread and Bakery, Alcoholic Beverages, Aerated Water/Soft Drinks, Soya Food, Packaged Foods, Packing and Refrigeration
Occupation	Processing
NSQF Level	7
Credits	TBD
Version	1.0
Last Reviewed Date	04/09/2018
Next Review Date	31/03/2022
Deactivation Date	31/03/2022
NSQC Clearance Date	03/03/2017

Qualification Pack

FIC/N9016: Manage documentation system and implement safety and environmental policies

Description

This OS unit is about managing documentation and implementing safety environmental policies in production process in food processing units

Scope

This unit/task covers the following:

Elements and Performance Criteria

Implement and monitor documentation system in production process

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

- PC1.** establish to production team the importance of documentation, provide training on documentation system, and ensure all documents are maintained systematically
- PC2.** ensure all relevant records and documents are complete, up-to-date and accessible for audits on production process
- PC3.** during audit provide the auditor with access to all relevant information, records and documents
- PC4.** ensure corrective actions recommended and implemented are documented to assure production process is carried in accordance with organisation and regulatory standards
- PC5.** establish methods to track production information from documented and maintained records

Implement and monitor safety and environmental management policies and procedures

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

- PC6.** establish to production team importance of safety and environment requirements related to food processing unit, communicate information about safety and environmental policies and related procedures to the team
- PC7.** co-ordinate with quality team to prepare policies and sops on safety and environment requirements related to production function, and ensure those procedure are followed in production area and during production process
- PC8.** ensure safe work procedures are followed in production area and during production process
- PC9.** ensure policies and standard operating procedures on safety and environment requirements are accessible to all employees of production team, and are followed to meet the regulatory requirements
- PC10.** identify safety and environmental hazards relevant to production processes, implement system to handle risks
- PC11.** provide or organize training through relevant authorities on safety and environmental management system, to understand methods to control and prevent hazards
- PC12.** conduct inspections in work place on use of protective clothing and accessories, and to ensure safety system is followed during production process

Qualification Pack

- PC13.** conduct audits and review records on safety and environmental system to monitor if control systems are followed by production team, and address non-compliance following organisation standards
- PC14.** implement system on waste management in production area and process, monitor and confirm waste collection, treatment, recycling or disposal is carried out meeting industry requirements and environmental regulations
- PC15.** respond to environmental management hazard identification and incidents in an appropriate and timely way
- PC16.** review practice and procedures followed on safety, conduct risk assessments, identify non-compliance, and provide recommendations to address gaps and non-conformances
- PC17.** review environmental records documents maintained, analyze data to evaluate effectiveness of the environmental management system and identify areas for improvement, plan and implement improvements to meet regulatory requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** organisaiton policies and goals
- KU2.** documentation and records management system
- KU3.** quality management system
- KU4.** enviroment management system
- KU5.** quality mark accreditations of the organisations
- KU6.** audit procedures and audit requirements
- KU7.** health and safety policy
- KU8.** food safety system like FSSAI
- KU9.** impotence and methods of ensuring records and documentation are complete and up-to-date
- KU10.** methods of carrying out audits to meet and maintain industry standards and regulatory requirements
- KU11.** methods to carry out audit with available documents and identifying any discrepancies
- KU12.** methods and procedures to identify any discrepancies in system, possible risks to organization and employees
- KU13.** methods to identify and analyze inherent problems with processes and procedures followed
- KU14.** regulations, guidelines and codes of practice related to health and safety, food safety, hygiene and sanitation (as per FSSAI)
- KU15.** environmental standards
- KU16.** methods to implement health and safety in food processing unit
- KU17.** industry standards like GMP, GHP, HACCP
- KU18.** types of hazards such as physical, chemical and biological hazards and methods to measures, control and prevent them
- KU19.** methods to establish systems for monitoring, measuring and reporting on health and safety
- KU20.** audit procedures to ensure food safety, hygiene and sanitation in the organization
- KU21.** food regulatory system like FSSAI

Qualification Pack

KU22. occupational health and safety management systems (OHSAS)

Generic Skills (GS)

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

- GS1.** write project reports
- GS2.** write reports on production process, production efficiency
- GS3.** write clear and concise report to management on functions of production process and proposals
- GS4.** write information documents to internal department managers
- GS5.** read technical documents related to production process of the organization
- GS6.** read and interpret equipment designs
- GS7.** read legal and safety, environmental and regulatory documents pertaining to the organization
- GS8.** read and understand internal information documents sent by cross function managers
- GS9.** communicate the organisation vision and values, policy and goals with enthusiasm and commitment to inspire the production team
- GS10.** communicate clearly to the team on department goals/targets, and the needs and methods of planning and prioritizing
- GS11.** communicate transparently and honestly on the intention and agenda to win the confidence of the employees
- GS12.** demonstrate respect while communicating to the employees and while listening to others problems
- GS13.** communicate confidently while sharing ideas and voicing difference of opinion
- GS14.** listen to issues related to the department, motivate people and provide ideas to resolve issues
- GS15.** motivate and encourage team to provide feedback and constructive ideas
- GS16.** respond to questions, provide feedback and encourage employees to come out with solution for problems and support new ideas
- GS17.** listen attentively to the employees problems related to organisation, production process, department or conflicts between employees and resolve issues
- GS18.** plan operational model for implementing production management system in the organisation
- GS19.** understand goals, objectives of the organisation and plan resources, allot responsibilities to complete on time and lead towards success
- GS20.** plan realistic goals for employees to achieve production target of the organisation
- GS21.** delegate authority, assign responsibilities, and provide direction to the achieve organisation and department goals
- GS22.** plan, organize and lead team to work towards achieving department and organisation goals
- GS23.** use reasoning skills to make judgements on issues related to production process and management
- GS24.** make judgements considering the constraints, values and policies of the organisation
- GS25.** use acquired knowledge and experience to analyze, evaluate, compare, discuss, make judgements, infer and arrive at solutions to solve problems

Qualification Pack

- GS26.** take initiatives to provide training on production management to all employees of organisation
- GS27.** take initiatives for promotions, growth and transfer of employees
- GS28.** take initiatives to identify areas and ways to implement cost effective measures in the organization
- GS29.** make clear, consistent, transparent decisions
- GS30.** show integrity, fairness and consistency in decision-making
- GS31.** identify nature of problems, apply balanced approach to problems and decide on solutions
- GS32.** combine, evaluate and reason with information and data to make decisions and solve problems
- GS33.** distinguish relevant from irrelevant information and make timely decisions
- GS34.** use logical reasoning to make decisions on relative importance of information and choosing the best solution

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Implement and monitor documentation system in production process</i>	11	18	-	-
PC1. establish to production team the importance of documentation, provide training on documentation system, and ensure all documents are maintained systematically	2	4	-	-
PC2. ensure all relevant records and documents are complete, up-to-date and accessible for audits on production process	2	4	-	-
PC3. during audit provide the auditor with access to all relevant information, records and documents	3	3	-	-
PC4. ensure corrective actions recommended and implemented are documented to assure production process is carried in accordance with organisation and regulatory standards	2	4	-	-
PC5. establish methods to track production information from documented and maintained records	2	3	-	-
<i>Implement and monitor safety and environmental management policies and procedures</i>	24	47	-	-
PC6. establish to production team importance of safety and environment requirements related to food processing unit, communicate information about safety and environmental policies and related procedures to the team	2	4	-	-
PC7. co-ordinate with quality team to prepare policies and sops on safety and environment requirements related to production function, and ensure those procedure are followed in production area and during production process	2	4	-	-
PC8. ensure safe work procedures are followed in production area and during production process	2	4	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. ensure policies and standard operating procedures on safety and environment requirements are accessible to all employees of production team, and are followed to meet the regulatory requirements	2	3	-	-
PC10. identify safety and environmental hazards relevant to production processes, implement system to handle risks	2	4	-	-
PC11. provide or organize training through relevant authorities on safety and environmental management system, to understand methods to control and prevent hazards	2	4	-	-
PC12. conduct inspections in work place on use of protective clothing and accessories, and to ensure safety system is followed during production process	2	4	-	-
PC13. conduct audits and review records on safety and environmental system to monitor if control systems are followed by production team, and address non-compliance following organisation standards	2	4	-	-
PC14. implement system on waste management in production area and process, monitor and confirm waste collection, treatment, recycling or disposal is carried out meeting industry requirements and environmental regulations	2	4	-	-
PC15. respond to environmental management hazard identification and incidents in an appropriate and timely way	2	4	-	-
PC16. review practice and procedures followed on safety, conduct risk assessments, identify non-compliance, and provide recommendations to address gaps and non-conformances	2	4	-	-
PC17. review environmental records documents maintained, analyze data to evaluate effectiveness of the environmental management system and identify areas for improvement, plan and implement improvements to meet regulatory requirements	2	4	-	-
NOS Total	35	65	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9016
NOS Name	Manage documentation system and implement safety and environmental policies
Sector	Food Processing
Sub-Sector	Fruits and Vegetables, Food Grain Milling, Dairy Products, Meat and Poultry, Fish and Sea Food, Bread and Bakery, Alcoholic Beverages, Aerated Water/Soft Drinks, Soya Food, Packaged Foods, Packing and Refrigeration
Occupation	Processing
NSQF Level	7
Credits	TBD
Version	1.0
Last Reviewed Date	04/09/2018
Next Review Date	31/03/2022
Deactivation Date	31/03/2022
NSQC Clearance Date	03/03/2017

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

Qualification Pack

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/N9014.Manage production process in food processing unit	35	65	-	-	100	40
FIC/N9015.Manage production optimization and cost efficiency in food processing unit	35	65	-	-	100	30
FIC/N9016.Manage documentation system and implement safety and environmental policies	35	65	-	-	100	30
Total	105	195	-	-	300	100

Qualification Pack

Acronyms

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

Qualification Pack

Glossary

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

Qualification Pack

Knowledge and Understanding (KU)	<p>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.</p>
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>