

Qualification Pack



Effluent Treatment Plant Operator - Food Processing Facility

QP Code: FIC/Q9501

Version: 1.0

NSQF Level: 3

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FIC/Q9501: Effluent Treatment Plant Operator - Food Processing Facility

Brief Job Description

The individual is responsible for the operation and maintenance of effluent treatment plant while ensuring compliance with statutory and regulatory requirements in a food processing facility.

Personal Attributes

The individual must be detail-oriented, organized and be able to perform basic mathematical calculations accurately. The individual must also be able to communicate and work in a team effectively.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N9504: Operation of Effluent Treatment Plant \(ETP\)](#)
2. [FIC/N9505: Carry out preventive maintenance of Effluent Treatment Plant \(ETP\)](#)
3. [SGJ/N1702: Optimize resource utilization at workplace](#)
4. [FIC/N9901: Implement health and safety practices at the workplace](#)
5. [FIC/N9902: Work effectively in an organisation](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL
Minimum Educational Qualification & Experience	10th Class OR 8th Class with 2 Years of experience

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Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	29/07/2021
Next Review Date	29/07/2024
Deactivation Date	29/07/2024
NSQC Approval Date	29/07/2021
Version	1.0
Reference code on NQR	2021/FI/FICSI/04381
NQR Version	1

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FIC/N9504: Operation of Effluent Treatment Plant (ETP)

Description

This NOS is about operating the effluent treatment plant effectively in adherence with standard work practices.

Scope

The scope covers the following :

- Prepare for plant operation
- Operate effluent treatment plant
- Sampling and testing of water
- Manage solid waste

Elements and Performance Criteria

Prepare for plant operation

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

- PC1.** obtain work instructions from the supervisor to ensure preparedness for operation and maintenance
- PC2.** identify types of effluents and wastes, determine treatment programs and options as directed by senior personnel
- PC3.** select and arrange the materials i.e., cleaning brush, lever, self-contained breathing apparatus, cleaning agents, etc., chemicals, filters, tools, equipment, fixtures and accessories appropriately as per the SOP and job requirements
- PC4.** check the input material, chemicals and equipment (such as related machinery and testing apparatus) thoroughly to ensure optimal operation
- PC5.** clean the equipment, fixtures and accessories, testing apparatus, work area etc. thoroughly
- PC6.** set the machine parameters i.e., temperature, pressure, ampere load, etc. for effective operation
- PC7.** plan the tasks to be performed as per standard practices

Operate effluent treatment plant

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

- PC8.** add appropriate chemicals for treatment as per effluent generated
- PC9.** perform treatment operations (sludge processing and disposal, chemical-feeding etc.) to purify the water
- PC10.** adjust, start and stop the pumps and valves to control the flow of raw waste through filtering, settling, aeration and sludge digestion processes
- PC11.** perform specialized activities such as activated-sludge, grit-removal, pump-and-blower, sludge-control or sludge-filtration in processing
- PC12.** read meter and gauges to monitor the variations in operating conditions and determine the load requirements

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- PC13.** record the operational data and gauge readings during the plant operations maintain the standard requirement of effluent water and report the abnormalities if any monitor the process to ensure separation of floating material and heavy solids and other substances (such as oil, grease, organic nitrogen, organic phosphorus, heavy metals associated with solids, etc.) from liquid waste

Sampling and testing of water

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

- PC14.** collect the water samples using dipper or bottle and use testing equipment (such as calorimeter)
- PC15.** provide the samples to the laboratory for testing at periodic intervals as per supervisors' instructions
- PC16.** apply data to formulas to determine the treatment requirements, flow levels and concentration levels of water
- PC17.** record relevant data and observations and report any abnormal records to senior personnel
- PC18.** maintain and update the records of testing as per the SOP

Manage solid waste

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

- PC19.** segregate the food and non-food residuals accumulated pre-treatment as per standard work practice
- PC20.** receive the waste materials in designated containers appropriately
- PC21.** identify the type of disposal method to be used as per the type of solid waste (such as residuals, screenings, sludge, etc.) as stipulated under state laws and organisational procedures
- PC22.** pre-treat the solid waste using biological methods to ensure degradation and odour do not spread in the environment
- PC23.** reuse the residuals as per the type of waste and wastewater in adherence with organisational guidelines

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards and procedures followed in the organization pertaining to effluent treatment plant operation
- KU2.** reporting procedure in an organisation
- KU3.** various parts of an effluent treatment plant and their functioning
- KU4.** wastewater treatment processes such as aeration, sedimentation, filtering, digestion, etc.
- KU5.** physical, chemical and biological methods for effluent treatment in food processing industry
- KU6.** various processes that contribute to effluent load
- KU7.** effluent treatment principles such as chemicals to be added, stages of treatment, type of effluents, etc.
- KU8.** SOP recommended by the manufacturer for using treatment machines, equipment, gauges, meters, testing equipment etc., during the treatment processes
- KU9.** working of various components of the treatment plant

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- KU10.** how to select chemicals for treatment, their use and safe handling practices
- KU11.** how to check the input material, chemicals, machines and testing apparatus for proper functioning
- KU12.** how to select the machines and testing apparatus water treatment process
- KU13.** use of data analytics tools and methods to analyse and interpret the data/information captured
- KU14.** the procedure of dosing chemicals, drying sludge etc.
- KU15.** various treatment operations such as sludge processing and disposal, chemical-feeding etc.
- KU16.** process of specialized activities such as activated-sludge, grit-removal, pump-and-blower, sludge-control or sludge-filtration in processing
- KU17.** how to collect water samples and test them using a calorimeter
- KU18.** safety requirements to be followed during the plant operation
- KU19.** basic mathematical principles and calculations performed during operation
- KU20.** guidelines and environmental laws applicable to effluent treatment in the food processing industry
- KU21.** organisational guidelines for reusing waste and wastewater post tertiary treatment

Generic Skills (GS)

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

- GS1.** read and interpret work instructions, equipment manuals and process documents
- GS2.** communicate the treatment process requirements to the supervisor and co-workers
- GS3.** comprehend the information given by the supervisor/team members
- GS4.** write work related information in English/regional language
- GS5.** recognise a workplace problem and take suitable action
- GS6.** analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7.** plan and organise work as per the work requirements
- GS8.** complete the assigned tasks as per schedule
- GS9.** multi-task and adapt to meet work timelines

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for plant operation</i>	12	18	-	6
PC1. obtain work instructions from the supervisor to ensure preparedness for operation and maintenance	-	-	-	-
PC2. identify types of effluents and wastes, determine treatment programs and options as directed by senior personnel	-	-	-	-
PC3. select and arrange the materials i.e., cleaning brush, lever, self-contained breathing apparatus, cleaning agents, etc., chemicals, filters, tools, equipment, fixtures and accessories appropriately as per the SOP and job requirements	-	-	-	-
PC4. check the input material, chemicals and equipment (such as related machinery and testing apparatus) thoroughly to ensure optimal operation	-	-	-	-
PC5. clean the equipment, fixtures and accessories, testing apparatus, work area etc. thoroughly	-	-	-	-
PC6. set the machine parameters i.e., temperature, pressure, ampere load, etc. for effective operation	-	-	-	-
PC7. plan the tasks to be performed as per standard practices	-	-	-	-
<i>Operate effluent treatment plant</i>	9	20	-	7
PC8. add appropriate chemicals for treatment as per effluent generated	-	-	-	-
PC9. perform treatment operations (sludge processing and disposal, chemical-feeding etc.) to purify the water	-	-	-	-
PC10. adjust, start and stop the pumps and valves to control the flow of raw waste through filtering, settling, aeration and sludge digestion processes	-	-	-	-
PC11. perform specialized activities such as activated-sludge, grit-removal, pump-and-blower, sludge-control or sludge-filtration in processing	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. read meter and gauges to monitor the variations in operating conditions and determine the load requirements	-	-	-	-
PC13. record the operational data and gauge readings during the plant operations maintain the standard requirement of effluent water and report the abnormalities if any monitor the process to ensure separation of floating material and heavy solids and other substances (such as oil, grease, organic nitrogen, organic phosphorus, heavy metals associated with solids, etc.) from liquid waste	-	-	-	-
<i>Sampling and testing of water</i>	5	6	-	4
PC14. collect the water samples using dipper or bottle and use testing equipment (such as calorimeter)	-	-	-	-
PC15. provide the samples to the laboratory for testing at periodic intervals as per supervisors' instructions	-	-	-	-
PC16. apply data to formulas to determine the treatment requirements, flow levels and concentration levels of water	-	-	-	-
PC17. record relevant data and observations and report any abnormal records to senior personnel	-	-	-	-
PC18. maintain and update the records of testing as per the SOP	-	-	-	-
<i>Manage solid waste</i>	4	6	-	3
PC19. segregate the food and non-food residuals accumulated pre-treatment as per standard work practice	1	2	-	1
PC20. receive the waste materials in designated containers appropriately	-	1	-	-
PC21. identify the type of disposal method to be used as per the type of solid waste (such as residuals, screenings, sludge, etc.) as stipulated under state laws and organisational procedures	1	1	-	1

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. pre-treat the solid waste using biological methods to ensure degradation and odour do not spread in the environment	1	1	-	1
PC23. reuse the residuals as per the type of waste and wastewater in adherence with organisational guidelines	1	1	-	-
NOS Total	30	50	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9504
NOS Name	Operation of Effluent Treatment Plant (ETP)
Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2024
NSQC Clearance Date	29/07/2021

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FIC/N9505: Carry out preventive maintenance of Effluent Treatment Plant (ETP)

Description

This NOS is about performing various tasks for preventive maintenance of effluent treatment plant (ETP) in a food processing industry.

Scope

The scope covers the following :

- Prepare for maintenance work
- Carry out maintenance of plant and equipment
- Carry out post-maintenance activities

Elements and Performance Criteria

Prepare for maintenance work

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

- PC1.** read the maintenance schedule and plan schedule for identifying work requirements
- PC2.** check the detention capacity, effluent flow and effluent disinfection flow in the contact chamber for compliance with regulatory authorities'
- PC3.** identify tools, consumables and spare parts required for performing various tasks
- PC4.** clear the work area to ensure no unwanted materials are present before starting the maintenance tasks

Carry out of maintenance of plant and equipment

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

- PC5.** read the maintenance check list for performing maintenance activities
- PC6.** inspect parts of treatment plant such as valves, filters, pumps, tanks and aerators thoroughly
- PC7.** test the effluent for total chlorine, and adjust the dosage rate to achieve the levels and stability required by standards and regulatory authorities
- PC8.** clean and grease the pumps and blowers etc., and its components as per standard practices
- PC9.** inspect the plant, its associated machines and accessories for any faults and defects
- PC10.** inspect electrical wiring for loose connections, leakages, etc. and take appropriate action immediately
- PC11.** carry out minor repairs and adjustments of the ETP and report any malfunctions/repairs in the machine beyond own scope to the concerned person
- PC12.** ascertain that the ETP is working desirably post maintenance

Carry out post-maintenance activities

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

- PC13.** update the Maintenance Data Sheet (MDS) on the equipment
- PC14.** record all repairs carried out, parts disposed and replaced, time taken and other significant findings observed during the work process

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- PC15.** ensure that all maintenance activities are adequately addressed
- PC16.** dispose unwanted components safely while ensuring no contact with the raw material, processed food, packaging material, etc.
- PC17.** report the superiors (operation and maintenance department) about maintenance activities carried out on the equipment

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards and procedures followed in the organization pertaining to effluent treatment plant maintenance
- KU2.** organisational reporting and documentation procedure
- KU3.** machine specifications and elements of desired functioning
- KU4.** tools and equipment required for maintenance tasks
- KU5.** importance of maintenance schedules and checklists recommended by the equipment manufacturer
- KU6.** significance of equipment layout and plant drawings for maintenance
- KU7.** SOP recommended by the manufacturer for using tools, equipment, gauges, meters, testing equipment etc. during the maintenance activities
- KU8.** how to clean work area for maintenance work
- KU9.** procedure to be followed for checking performance of various components
- KU10.** safety requirements to be followed during plant maintenance
- KU11.** how to troubleshoot and perform minor repairs for ETP
- KU12.** corrective actions taken to address equipment faults
- KU13.** information to be recorded on the maintenance data sheet
- KU14.** documentation and records need to maintain regarding repair and maintenance activities performed
- KU15.** how to ensure optimal operation of effluent treatment plant
- KU16.** safe disposal of materials from the workplace ensuring zero contamination with raw materials, processed food, packaging materials, etc.

Generic Skills (GS)

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

- GS1.** read and interpret work instructions, equipment manuals and process documents
- GS2.** communicate the treatment process requirements to the supervisor and co-workers
- GS3.** comprehend the information given by the supervisor/team members
- GS4.** write work related information in English/regional language
- GS5.** recognise a workplace problem and take suitable action
- GS6.** analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently



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- GS7.** plan and organise work as per the principles work requirements
- GS8.** complete the assigned tasks as per schedule
- GS9.** multi-task and adapt to meet work timelines

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for maintenance work</i>	10	9	-	5
PC1. read the maintenance schedule and plan schedule for identifying work requirements	-	-	-	1
PC2. check the detention capacity, effluent flow and effluent disinfection flow in the contact chamber for compliance with regulatory authorities'	-	-	-	1
PC3. identify tools, consumables and spare parts required for performing various tasks	-	-	-	2
PC4. clear the work area to ensure no unwanted materials are present before starting the maintenance tasks	-	-	-	1
<i>Carry out of maintenance of plant and equipment</i>	14	30	-	10
PC5. read the maintenance check list for performing maintenance activities	-	-	-	2
PC6. inspect parts of treatment plant such as valves, filters, pumps, tanks and aerators thoroughly	-	-	-	1
PC7. test the effluent for total chlorine, and adjust the dosage rate to achieve the levels and stability required by standards and regulatory authorities	-	-	-	1
PC8. clean and grease the pumps and blowers etc., and its components as per standard practices	-	-	-	2
PC9. inspect the plant, its associated machines and accessories for any faults and defects	-	-	-	2
PC10. inspect electrical wiring for loose connections, leakages, etc. and take appropriate action immediately	-	-	-	2
PC11. carry out minor repairs and adjustments of the ETP and report any malfunctions/repairs in the machine beyond own scope to the concerned person	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ascertain that the ETP is working desirably post maintenance	-	-	-	-
<i>Carry out post-maintenance activities</i>	6	11	-	5
PC13. update the Maintenance Data Sheet (MDS) on the equipment	1	-	-	1
PC14. record all repairs carried out, parts disposed and replaced, time taken and other significant findings observed during the work process	2	-	-	1
PC15. ensure that all maintenance activities are adequately addressed	1	-	-	2
PC16. dispose unwanted components safely while ensuring no contact with the raw material, processed food, packaging material, etc.	1	-	-	-
PC17. report the superiors (operation and maintenance department) about maintenance activities carried out on the equipment	1	-	-	1
NOS Total	30	50	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9505
NOS Name	Carry out preventive maintenance of Effluent Treatment Plant (ETP)
Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	29/07/2021
Next Review Date	29/07/2024
NSQC Clearance Date	29/07/2021

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SGJ/N1702: Optimize resource utilization at workplace

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Material conservation practices

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

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

Energy/electricity conservation practices

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

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

Effective waste management/recycling practices

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

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

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Assessment Criteria

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



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	13	26	-	-

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National Occupational Standards (NOS) Parameters

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

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Ensure food safety and personal hygiene

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

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

Follow safety measures to avoid accidents

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

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

Follow emergency procedures

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

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

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

Manage infection control

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

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

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. meaning of hazards and risks

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

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

KU4. health and safety policy and procedures of the organization

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

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

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

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

KU9. importance of ensuring personal hygiene at the workplace

KU10. ways to prevent cross contamination at the workplace

KU11. importance of storing food at specified temperatures

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

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

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

KU15. techniques of using the different fire extinguishers

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

KU17. rescue techniques applied during a fire hazard

KU18. various types of safety signs and what they mean

KU19. workplace emergency and evacuation procedures

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

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

KU22. safe lifting and carrying practices

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

KU24. procedure for storing the sanitising materials appropriately

Generic Skills (GS)

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

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

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Assessment Criteria

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

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

Qualification Pack

National Occupational Standards (NOS) Parameters

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

Qualification Pack

FIC/N9902: Work effectively in an organisation

Description

This unit is about working effectively with others.

Scope

The scope covers the following :

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

Elements and Performance Criteria

Communicate effectively

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

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

Work in a team effectively

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

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

Respect diversity

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

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

Generic Skills (GS)

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

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

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Assessment Criteria

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

Qualification Pack

National Occupational Standards (NOS) Parameters

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

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions 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 this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

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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/N9504.Operation of Effluent Treatment Plant (ETP) in a food processing workplace	30	50	-	20	100	35
FIC/N9505.Carry out preventive maintenance of Effluent Treatment Plant (ETP) in a food processing workplace	33	58	-	20	111	35
SGJ/N1702.Optimize resource utilization at workplace	13	26	-	-	39	5
FIC/N9901.Implement health and safety practices at the workplace	30	70	-	-	100	15
FIC/N9902.Work effectively in an organisation	22	39	-	-	61	10
Total	128	243	-	40	411	100

Qualification Pack

Acronyms

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

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.

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Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.