



Assistant Electrician- Food manufacturing facility

QP Code: FIC/Q9504

Version: 1.0

NSQF Level: 3

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

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FIC/Q9504: Assistant Electrician- Food manufacturing facility

Brief Job Description

The individual is responsible for the installation of electrical utilities required in a food processing environment. In addition to it, the individual repairs and maintains the installed electrical utilities (such as electrical wiring, equipment, control panels, fixtures, outdoor lighting, intercom systems, electrical control systems etc.) in production, utilities, laboratory, stores, etc. while ensuring compliance with statutory and regulatory requirements in a food processing facility.

Personal Attributes

The individual must be able to plan and prioritise tasks effectively. The individual must be detail-oriented, organized, capable of performing routine calculations as required in the job.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [FIC/N9508: Install electrical utilities in a food processing facility](#)
2. [FIC/N9509: Carry out preventive maintenance of electrical equipment installed in a food processing facility](#)
3. [FIC/N9901: Implement health and safety practices at the workplace](#)
4. [FIC/N9902: Work effectively in an organisation](#)
5. [SGJ/N1702: Optimize resource utilization at workplace](#)

Qualification Pack (QP) Parameters

Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7241.20

Minimum Educational Qualification & Experience	12th Class OR 10th Class (and 2 years course in relevant stream) OR 10th Class with 2 Years of experience OR 10th Class + I.T.I (2 years in relevant field)
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	1.0

FIC/N9508: Install electrical utilities in a food processing facility

Description

This NOS is about installation of electrical utilities in a food processing environment as per standard work practices.

Scope

The scope covers the following :

- Prepare for the installation
- Install minor electrical equipment
- Perform post-installation activities

Elements and Performance Criteria

Prepare for the installation

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

- PC1.** obtain instructions from concerned departments and supervisors as per nature of tasks to be performed
- PC2.** determine the location and specifications of electrical utilities to be installed by referring to layouts, blueprints, etc. and site inspections
- PC3.** identify and arrange the power tools, gauges, measuring instruments and equipment required for installation
- PC4.** check the calibration status of tools, gauges and measuring instruments thoroughly to ensure optimal operation
- PC5.** obtain approvals from concerned personnel whose work is likely to be affected during installation as per organizational practice

Install minor electrical equipment

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

- PC6.** install electrical systems, controls and components used in food processing equipment as per standard operating procedures (SOPs)
- PC7.** install ground leads and connect the power cables of equipment to the mains supply safely
- PC8.** install lighting systems, intercom systems, etc. and connect it with the main station safely
- PC9.** test continuity of circuits in electrical wiring, equipment and fixtures by using testing devices such as ohmmeters, voltmeters, oscilloscopes etc.
- PC10.** inspect electrical supplies for appropriate working conditions
- PC11.** connect the wires to the designated terminals and tighten the switches adequately
- PC12.** assemble back the covers, guards, clamps, insulation etc. of the equipment after completion of installation work
- PC13.** conduct trials of the equipment to verify that system is working effectively and specified parameters are attained with no abnormalities
- PC14.** adjust equipment settings and controls as required to ensure desired operation
- PC15.** run few cycles of equipment and observe its functioning in the presence of the supervisor
- PC16.** implement corrective measures as required after installation to ensure effective operation

Perform post-installation activities

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

- PC17.** calibrate the tools, gauges, measuring instruments and equipment as per the SOP
- PC18.** clean and store the power tools, equipment and process auxiliaries as per organisational procedures
- PC19.** store the charts and technical manuals at the designated places
- PC20.** maintain and update the records and documents such as history sheets, equipment performance review, closure of complaint, etc. as per organisational practice
- PC21.** dispose waste materials such as failed parts/aggregates safely while ensuring no contact with the raw material, processed food, packaging material, etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards and procedures followed in the organization applicable to installation and testing in a food processing environment
- KU2.** reporting and documentation procedure in an organisation
- KU3.** common electrical terminologies e.g., current, voltage, resistance, kilowatt (kw), kilowatt hour (kwh)
- KU4.** basic concepts of electricity, power and energy management systems
- KU5.** factors that help in determining type of installation activity to be conducted
- KU6.** tools, gauges, measuring instruments and equipment used for installation and testing work
- KU7.** how to check and correct the calibration of tools, gauges and measuring instruments
- KU8.** importance of obtaining prior approvals from concerned personnel before carrying out installation work
- KU9.** process to install various types of electrical systems, controls and components used in food processing equipment
- KU10.** assembling and dismantling procedure of power driven food processing equipment
- KU11.** typical equipment faults and related causes, including recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
- KU12.** corrective actions for common faults in electrical systems, controls and devices associated with the equipment
- KU13.** reason and impact of inefficiencies observed in the equipment used in food processing industry
- KU14.** safe practices followed to conduct a trial run of the equipment
- KU15.** safety requirements to be followed during the installation of electrical equipment
- KU16.** types of records to be maintained and information to be recorded in them
- KU17.** safe disposal of materials from the workplace ensuring zero contamination with raw materials, processed food, packaging materials, etc.
- KU18.** importance of ensuring a clean workplace

Generic Skills (GS)

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

- GS1.** read and interpret information from work instructions, equipment manuals and process documents
- GS2.** communicate with others effectively
- GS3.** comprehend the information given by the supervisor/team members
- GS4.** write work related information in English/regional language/Hindi accurately
- GS5.** recognise workplace problems and take suitable action
- GS6.** analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7.** plan and prioritise tasks as per work requirements
- GS8.** be courteous
- GS9.** be punctual

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for the installation</i>	9	10	-	5
PC1. obtain instructions from concerned departments and supervisors as per nature of tasks to be performed	1	2	-	1
PC2. determine the location and specifications of electrical utilities to be installed by referring to layouts, blueprints, etc. and site inspections	1	2	-	1
PC3. identify and arrange the power tools, gauges, measuring instruments and equipment required for installation	5	3	-	2
PC4. check the calibration status of tools, gauges and measuring instruments thoroughly to ensure optimal operation	1	2	-	1
PC5. obtain approvals from concerned personnel whose work is likely to be affected during installation as per organizational practice	1	1	-	-
<i>Install minor electrical equipment</i>	16	32	-	12
PC6. install electrical systems, controls and components used in food processing equipment as per standard operating procedures (SOPs)	3	6	-	2
PC7. install ground leads and connect the power cables of equipment to the mains supply safely	1	2	-	1
PC8. install lighting systems, intercom systems, etc. and connect it with the main station safely	2	4	-	1
PC9. test continuity of circuits in electrical wiring, equipment and fixtures by using testing devices such as ohmmeters, voltmeters, oscilloscopes etc.	2	4	-	2
PC10. inspect electrical supplies for appropriate working conditions	2	4	-	1
PC11. connect the wires to the designated terminals and tighten the switches adequately	1	2	-	1
PC12. assemble back the covers, guards, clamps, insulation etc. of the equipment after completion of installation work	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. conduct trials of the equipment to verify that system is working effectively and specified parameters are attained with no abnormalities	1	2	-	1
PC14. adjust equipment settings and controls as required to ensure desired operation	1	2	-	1
PC15. run few cycles of equipment and observe its functioning in the presence of the supervisor	1	2	-	-
PC16. implement corrective measures as required after installation to ensure effective operation	1	2	-	1
<i>Perform post-installation activities</i>	5	8	-	3
PC17. calibrate the tools, gauges, measuring instruments and equipment as per the SOP	1	2	-	1
PC18. clean and store the power tools, equipment and process auxiliaries as per organisational procedures	1	2	-	1
PC19. store the charts and technical manuals at the designated places	1	1	-	-
PC20. maintain and update the records and documents such as history sheets, equipment performance review, closure of complaint, etc. as per organisational practice	1	2	-	1
PC21. dispose waste materials such as failed parts/aggregates safely while ensuring no contact with the raw material, processed food, packaging material, etc.	1	1	-	-
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9508
NOS Name	Install electrical utilities in a food processing facility
Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	NA

FIC/N9509: Carry out preventive maintenance of electrical equipment installed in a food processing facility

Description

This NOS is about performing various tasks to ensure preventive maintenance of electrical equipment installed at the food processing facility.

Scope

The scope covers the following :

- Prepare for maintenance work
- Repair and maintain electrical equipment

Elements and Performance Criteria

Prepare for maintenance work

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

- PC1.** determine the work requirements such as type of tasks to be performed (repair, maintenance, etc.), equipment to be maintained from work instructions, manuals, site visits, etc.
- PC2.** identify tools, consumables, spare parts, etc. required for performing repair and maintenance
- PC3.** inform relevant departments about the repair and maintenance to be performed and obtain approval before starting the work
- PC4.** clear the work area thoroughly to ensure no unwanted materials are present before starting the work

Repair and maintain electrical equipment

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

- PC5.** shut down the equipment properly by disconnecting all primary and secondary energy sources safely
- PC6.** inspect the equipment for defects and faulty parts/components by carrying out standard checks
- PC7.** fix and verify that lockout has been successful and attach a lockout or tagout device to the equipment to ensure that it cannot be started without removing the device
- PC8.** dismantle the equipment and disconnect the faulty parts from the equipment safely
- PC9.** install the new component/s while ensuring it is connected appropriately
- PC10.** check all wirings and electrical connections for any faults, damage, loose connections, etc.
- PC11.** inspect the equipment for charge leakage, short circuit in parts, breakage of wires and clamps, unusual contact of electrical wires with moving parts, erratic/problematic performance or any other problem as reported in the complaint
- PC12.** carry out minor repairs and adjustments of the equipment and report any malfunctions/repairs in the machine beyond own scope to the concerned person
- PC13.** assemble back the covers, guards, clamps, insulation etc. of the equipment after repair and maintenance
- PC14.** update the Maintenance Data Sheet (MDS) on the equipment

- PC15.** record all repairs carried out, parts disposed and replaced, time taken and other significant findings observed during the work process
- PC16.** ensure that all maintenance activities are adequately addressed
- PC17.** dispose unwanted electrical components safely while ensuring no contact with the raw material, processed food, packaging material, etc.
- PC18.** report information such as repair and maintenance work done, faults observed, action taken, parts replaced, next scheduled maintenance, etc. to the supervisors

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 maintenance of electrical utilities
- KU2.** organisational reporting and documentation procedure
- KU3.** machine specifications and elements of desired functioning of electrical equipment
- KU4.** tools and equipment required for carrying out repair and maintenance tasks
- KU5.** importance of obtaining approvals prior to starting the work
- KU6.** importance of maintenance schedules, work instructions and checklists recommended by the equipment manufacturer
- KU7.** significance of equipment layout and plant drawings for maintenance
- KU8.** safe techniques for dismantling and assembling the electrical utilities
- KU9.** SOP recommended by the manufacturer for using tools, equipment, gauges, meters, testing equipment etc. during the maintenance activities
- KU10.** procedure to be followed for checking performance of various components installed in electrical utilities
- KU11.** safety requirements to be followed during maintenance work
- KU12.** how to troubleshoot and perform minor repairs for electrical components installed
- KU13.** how to install basic electrical components in the food processing equipment safely
- KU14.** corrective actions taken to address equipment faults
- KU15.** information to be recorded on the maintenance data sheet
- KU16.** documentation and records to be maintained regarding repair and maintenance activities performed
- KU17.** how to ensure optimal operation of electrical utilities
- KU18.** 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 information from work instructions, manuals and process documents
- GS2.** communicate supervisor and co-workers effectively
- GS3.** comprehend the information given by the supervisor/team members

- GS4.** write work related information in English/regional language accurately
- 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 prioritise tasks as per the work requirements
- GS8.** multi-task and adapt to meet work timelines

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for maintenance work</i>	9	10	-	5
PC1. determine the work requirements such as type of tasks to be performed (repair, maintenance, etc.), equipment to be maintained from work instructions, manuals, site visits, etc.	1	2	-	1
PC2. identify tools, consumables, spare parts, etc. required for performing repair and maintenance	5	3	-	2
PC3. inform relevant departments about the repair and maintenance to be performed and obtain approval before starting the work	1	2	-	1
PC4. clear the work area thoroughly to ensure no unwanted materials are present before starting the work	2	3	-	1
<i>Repair and maintain electrical equipment</i>	21	40	-	15
PC5. shut down the equipment properly by disconnecting all primary and secondary energy sources safely	1	2	-	-
PC6. inspect the equipment for defects and faulty parts/components by carrying out standard checks	2	3	-	1
PC7. fix and verify that lockout has been successful and attach a lockout or tagout device to the equipment to ensure that it cannot be started without removing the device	1	3	-	1
PC8. dismantle the equipment and disconnect the faulty parts from the equipment safely	2	3	-	2
PC9. install the new component/s while ensuring it is connected appropriately	1	2	-	1
PC10. check all wirings and electrical connections for any faults, damage, loose connections, etc.	1	2	-	1
PC11. inspect the equipment for charge leakage, short circuit in parts, breakage of wires and clamps, unusual contact of electrical wires with moving parts, erratic/problematic performance or any other problem as reported in the complaint	5	10	-	3

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. carry out minor repairs and adjustments of the equipment and report any malfunctions/repairs in the machine beyond own scope to the concerned person	2	5	-	2
PC13. assemble back the covers, guards, clamps, insulation etc. of the equipment after repair and maintenance	1	2	-	1
PC14. update the Maintenance Data Sheet (MDS) on the equipment	1	1	-	-
PC15. record all repairs carried out, parts disposed and replaced, time taken and other significant findings observed during the work process	1	2	-	1
PC16. ensure that all maintenance activities are adequately addressed	1	1	-	-
PC17. dispose unwanted electrical components safely while ensuring no contact with the raw material, processed food, packaging material, etc.	1	2	-	1
PC18. report information such as repair and maintenance work done, faults observed, action taken, parts replaced, next scheduled maintenance, etc. to the supervisors	1	2	-	1
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	FIC/N9509
NOS Name	Carry out preventive maintenance of electrical equipment installed in a food processing facility
Sector	Food Processing
Sub-Sector	Generic
Occupation	Utilities and Maintenance
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	NA

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

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Ensure food safety and personal hygiene

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

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

Follow safety measures to avoid accidents

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

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

Follow emergency procedures

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

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

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

Manage infection control

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

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

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. meaning of hazards and risks

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

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

KU4. health and safety policy and procedures of the organization

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

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

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

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

KU9. importance of ensuring personal hygiene at the workplace

KU10. ways to prevent cross contamination at the workplace

KU11. importance of storing food at specified temperatures

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

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

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

KU15. techniques of using the different fire extinguishers

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

KU17. rescue techniques applied during a fire hazard

KU18. various types of safety signs and what they mean

KU19. workplace emergency and evacuation procedures

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

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

KU22. safe lifting and carrying practices

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

KU24. procedure for storing the sanitising materials appropriately

Generic Skills (GS)

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

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

Assessment Criteria

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

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

National Occupational Standards (NOS) Parameters

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

FIC/N9902: Work effectively in an organisation

Description

This unit is about working effectively with others.

Scope

The scope covers the following :

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

Elements and Performance Criteria

Communicate effectively

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

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

Work in a team effectively

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

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

Respect diversity

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

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

Generic Skills (GS)

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

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

Assessment Criteria

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

National Occupational Standards (NOS) Parameters

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

SGJ/N1702: Optimize resource utilization at workplace

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Material conservation practices

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

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

Energy/electricity conservation practices

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

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

Effective waste management/recycling practices

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

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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

Generic Skills (GS)

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

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

Assessment Criteria

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

National Occupational Standards (NOS) Parameters

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

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each 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.

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/N9508.Install electrical utilities in a food processing facility	30	50	-	20	100	35
FIC/N9509.Carry out preventive maintenance of electrical equipment installed in a food processing facility	30	50	-	20	100	30
FIC/N9901.Implement health and safety practices at the workplace	30	70	-	-	100	10
FIC/N9902.Work effectively in an organisation	22	39	-	-	61	15
SGJ/N1702.Optimize resource utilization at workplace	13	26	-	-	39	10
Total	125	235	-	40	400	100

Acronyms

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

Glossary

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

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