



Repair and Maintenance Technician (Farm Machinery)

QP Code: AGR/Q1106

Version: 4.0

NSQF Level: 4

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Qualification Pack

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AGR/Q1106: Repair and Maintenance Technician (Farm Machinery)

Brief Job Description

A Repair and Maintenance Technician (Farm Machinery) is responsible for carrying out repair and maintenance of farm machineries such as disc plough and harrow, seed driller, plant protection equipment, reaper, thresher, chaff cutter, sugarcane crusher, etc.

Personal Attributes

The individual in this role must have a mechanical aptitude and problem-solving skills. The person must have good reading, writing, and communication skills along with the ability to co-ordinate with others.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N1151: General repair and maintenance work of farm equipment/machinery](#)
2. [AGR/N1152: Troubleshooting, repair and maintenance of farm equipment/machinery](#)
3. [AGR/N1153: Digitized documentation and record keeping of repair and maintenance activities](#)
4. [AGR/N9903: Maintain health and safety at the workplace](#)
5. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Farm Machinery, Equipment Operation and Maintenance
Country	India
NSQF Level	4
Credits	13

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Aligned to NCO/ISCO/ISIC Code	NCO-2015/7233.2800
Minimum Educational Qualification & Experience	12th grade Pass OR 10th grade pass with 3 years of relevant experience in Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level (3.5) with 1.5 Years of relevant experience in Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level (Level 3) with 3 years of relevant experience in in Agriculture and allied sectors
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	30/05/2024
Next Review Date	30/05/2027
NSQC Approval Date	30/05/2024
Version	4.0
Reference code on NQR	QG-04-AG-02609-2024-V2-ASCI
NQR Version	2

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AGR/N1151: General repair and maintenance work of farm equipment/machinery

Description

This OS unit is about general repair works of farm equipment/machinery including diagnosing issues, parts replacement, welding and fabrication, electrical repairs, hydraulic system repairs and basic maintenance works including regular inspections, lubrication, cleaning, adjustments and fluid checks and replacement.

Scope

The scope covers the following :

- Carry out general repair works
- Carry out general maintenance works

Elements and Performance Criteria

Carry out general repair works

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

- PC1. Identify symptoms of malfunction such as unusual noises, reduced performance, or system errors.
- PC2. Use diagnostic tools to identify specific issues
- PC3. disassembly equipment to access damaged or malfunctioning components
- PC4. Replace worn-out or damaged parts like belts, bearings, gears, and blades.
- PC5. Ensure the correct installation of new parts for proper functionality.
- PC6. Perform welding to fix broken metal components.
- PC7. Fabricate custom parts if required to fit unique machinery specifications.
- PC8. Repair or replace damaged wiring, connectors, and electrical components.
- PC9. Address issues with sensors, control units, and electrical circuits.
- PC10. Fix leaks in hoses, seals, and other hydraulic components.
- PC11. Replace faulty hydraulic pumps, cylinders, and valves
- PC12. Put equipment back together after repairs, ensuring proper functionality
- PC13. Test repaired equipment to ensure it operates correctly and make necessary adjustments

Carry out general maintenance works

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

- PC14. Operate farm machinery to conduct maintenance tasks
- PC15. Conduct routine inspections of all machinery components.
- PC16. Look for signs of wear, damage, or potential issues
- PC17. Regularly lubricate moving parts to minimize friction and wear.
- PC18. Use appropriate lubricants for different machinery parts
- PC19. Clean equipment to remove dirt, debris, and residues that can affect performance
- PC20. Ensure air filters and cooling systems are free from obstructions
- PC21. Adjust settings, alignments, and tensions to ensure optimal operation

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PC22. Calibrate sensors, control systems, and other adjustable components

PC23. Check and replenish fluids such as oil, hydraulic fluid, and coolant.

PC24. Replace fluids according to the manufacturer's guidelines

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. common failure modes and symptoms in farm equipment/machinery
- KU2. Use of diagnostic tools for troubleshooting
- KU3. manufacturer-specific troubleshooting procedures
- KU4. Mechanical Systems- engines, transmissions, and drive systems
- KU5. The working of gears, belts, chains, pulleys, bearing and bushings
- KU6. the properties of different metals and materials used in machinery.
- KU7. welding and fabrication techniques.
- KU8. Principles of hydraulic systems and components
- KU9. hydraulic fluid properties, pressures, and flow rates.
- KU10. pneumatic systems and components.
- KU11. Working of air compressors, valves, and actuators.
- KU12. Electrical Systems-electrical circuits, wiring, and components.
- KU13. AC/DC systems, voltage, and current, battery maintenance
- KU14. sensors, control units, and circuit boards.
- KU15. diagnostic tools and software for electronic systems.
- KU16. use of multimeters and other testing equipment for troubleshooting electrical issues
- KU17. common electrical problems and solutions.
- KU18. Internal Combustion Engines- gasoline and diesel engine operation.
- KU19. engine components like pistons, crankshafts, and camshafts.
- KU20. Fuel Systems-carburetors, fuel injection systems, and fuel pumps.
- KU21. fuel types and properties.
- KU22. Power Transmission-clutches, gearboxes, and differentials.
- KU23. drive shafts, axles, and universal joints.
- KU24. Hydraulic Systems-hydraulic pumps, cylinders, and valves.
- KU25. Pneumatic Systems-compressors, air tanks, and pneumatic tools.
- KU26. air pressure regulation and control.
- KU27. routine maintenance tasks and schedules.
- KU28. lubrication, cleaning, and inspection techniques
- KU29. the types and properties of lubricants
- KU30. lubrication schedules and techniques to reduce wear and friction
- KU31. cleaning techniques for different components.
- KU32. rust prevention and treatment.
- KU33. necessary adjustments and calibrations for optimal performance.
- KU34. aligning, tensioning, and setting clearances.
- KU35. common repair tools and equipment.
- KU36. part replacement and alignment procedures.
- KU37. best practices for maintaining different types of equipment.
- KU38. the importance of regular maintenance for longevity and efficiency
- KU39. safety protocols and protective equipment.
- KU40. emergency procedures and first aid.
- KU41. environmental regulations affecting machinery use.
- KU42. industry standards and manufacturer specifications.
- KU43. certification and inspection requirements

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- KU44. how equipment is used in various farming operations.
- KU45. crop cycles and seasonal equipment demands.
- KU46. how weather and soil conditions affect machinery.
- KU47. modifications and adjustments for different terrains

Generic Skills (GS)

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

- GS1. maintain work-related notes and records
- GS2. read the relevant literature to get the latest updates about the field of work
- GS3. listen attentively to understand the information being shared
- GS4. communicate politely and professionally
- GS5. plan and prioritize tasks to ensure timely completion
- GS6. take quick decisions to deal with workplace emergencies/ accidents
- GS7. identify possible disruptions to work and take appropriate preventive measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out general repair works</i>	20	20	-	10
PC1. Identify symptoms of malfunction such as unusual noises, reduced performance, or system errors.	-	-	-	-
PC2. Use diagnostic tools to identify specific issues	-	-	-	-
PC3. disassembly equipment to access damaged or malfunctioning components	-	-	-	-
PC4. Replace worn-out or damaged parts like belts, bearings, gears, and blades.	-	-	-	-
PC5. Ensure the correct installation of new parts for proper functionality	-	-	-	-
PC6. Perform welding to fix broken metal components	-	-	-	-
PC7. Fabricate custom parts if required to fit unique machinery specifications	-	-	-	-
PC8. Repair or replace damaged wiring, connectors, and electrical components.	-	-	-	-
PC9. Address issues with sensors, control units, and electrical circuits.	-	-	-	-
PC10. Fix leaks in hoses, seals, and other hydraulic components	-	-	-	-
PC11. Replace faulty hydraulic pumps, cylinders, and valves	-	-	-	-
PC12. Put equipment back together after repairs, ensuring proper functionality	-	-	-	-
PC13. Test repaired equipment to ensure it operates correctly and make necessary adjustments	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out general maintenance works</i>	15	25		10
PC14. Operate farm machinery to conduct maintenance tasks	-	-	-	-
PC15. Conduct routine inspections of all machinery components.	-	-	-	-
PC16. Look for signs of wear, damage, or potential issues	-	-	-	-
PC17. Regularly lubricate moving parts to minimize friction and wear	-	-	-	-
PC18. Use appropriate lubricants for different machinery parts	-	-	-	-
PC19. Clean equipment to remove dirt, debris, and residues that can affect performance	-	-	-	-
PC20. Ensure air filters and cooling systems are free from obstructions	-	-	-	-
PC21. Adjust settings, alignments, and tensions to ensure optimal operation	-	-	-	-
PC22. Calibrate sensors, control systems, and other adjustable components	-	-	-	-
PC23. Check and replenish fluids such as oil, hydraulic fluid, and coolant	-	-	-	-
PC24. Replace fluids according to the manufacturer's guidelines	-	-	-	-
NOS Total	35	45	-	20

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1151
NOS Name	General repair and maintenance work of farm equipment/machinery
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Farm Machinery, Equipment Operation And Maintenance
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	30/11/2024
NSQC Clearance Date	30/05/2024

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AGR/N1152: Troubleshooting, repair and maintenance of farm equipment/machinery

Description

This OS unit is about troubleshooting, repair and maintenance of pre-harvesting, harvesting and post-harvesting equipment/machinery.

Scope

The scope covers the following :

- Troubleshoot the issues in the farm equipment/machinery
- Carry out repair and maintenance of tillage and soil farming equipment
- Carry out repair and maintenance of seed drills and planters
- Carry out repair and maintenance of plant protection equipment
- Carry out repair and maintenance of harvesting and post-harvesting machineries

Elements and Performance Criteria

Troubleshoot the issues in the farm equipment/machinery

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

- PC1 Gather detailed information on the issue (e.g., when it occurs, under what conditions)
- PC2 Interview farmers/operators for insights on issues being faced
- PC3 Identify symptoms of malfunction (e.g., unusual noises, reduced performance)
- PC4 Use multimeters, pressure gauges, and other tools to test electrical and hydraulic components
- PC5 Perform load tests on engines and motors
- PC6 Isolate systems to identify the source of the problem (e.g., electrical, hydraulic, mechanical).
- PC7 Test individual components and circuits
- PC8 Refer to equipment manuals for troubleshooting charts and procedures
- PC9 Follow manufacturer's guidelines for specific issues
- PC10 select machinery and equipment required for repair and maintenance work
- PC11 use personal protective equipment according to workplace procedures and operation and maintenance manuals

Carry out repair and maintenance of tillage and soil farming

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

- PC12 Carry out repair and maintenance of mouldboard
- PC13 Carry out repair and maintenance of disc plough
- PC14 Carry out repair and maintenance of disc harrow
- PC15 Carry out repair and maintenance of cultivator

Carry out repair and maintenance of seed drills and planters

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

- PC16 Carry out repair and maintenance of seed/ fertilizer boxes and machine/ metering rollers
- PC17 Carry out repair and maintenance of power transmission system
- PC18 Carry out repair and maintenance of seed and fertilizer metering and application equipment

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PC19 Carry out repair and maintenance of seed and fertilizer tubes

Carry out repair and maintenance of plant protection equipment

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

PC20 Check and clean the tank, nozzle and filters

PC21 Carry out maintenance of pump assembly and pressure regulator

Carry out repair and maintenance of plant protection equipment

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

PC22 Carry out repair and maintenance of reaper

PC23 Carry out repair and maintenance of thresher

PC24 Carry out repair and maintenance of other post-harvesting machineries such as cleaner/ grader drying equipment, rice/ flour/ spice mill, oil expelling machines, chaff cutters etc

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. applicable health and safety standards and requirements
- KU2. importance of regular maintenance and repair of farm equipment/machinery
- KU3. how equipment is used in various farming operations
- KU4. crop cycles and seasonal equipment demands
- KU5. how weather and soil conditions affect machinery
- KU6. modifications and adjustments for different terrains
- KU7. How to systematically diagnose and isolate issues
- KU8. common failure modes and symptoms
- KU9. diagnostic tools and electronic testing equipment
- KU10. mechanical testing tools like pressure gauges and micrometers
- KU11. technical manuals, schematics, and diagrams
- KU12. manufacturer-specific troubleshooting procedures
- KU13. design and function of commonly used primary and secondary tillage machinery
- KU14. various components of a mouldboard plough, disc plough, disc harrow and cultivator
- KU15. common repair and maintenance needs of a mouldboard plough, disc plough, disc harrow and cultivator
- KU16. relevant environmental and occupational hazards and the ways to deal with them
- KU17. importance and use of relevant Personal Protective Equipment (PPE)
- KU18. correct handling of various service and maintenance tools and equipment
- KU19. adjustments of gauge and wheels disc, tilt angle, working depth of tillage machinery
- KU20. safety measures, possible problems and their remedies for various tillage equipment
- KU21. correct process to hitch and unhitch implements
- KU22. various components of a seed and fertilizer box, drive/power transmission system, seed and fertilizer metering mechanisms and application equipment, seed/ fertilizer tubes
- KU23. common repair and maintenance needs of a seed and fertilizer box, drive/power transmission system, seed and fertilizer metering and application systems, seed/ fertilizer tubes
- KU24. various attachments used with seed drills and planters

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- KU25. relevant adjustments required to be made to a seed drill
- KU26. crop cycle for different types of crop
- KU27. safe handling of various chemicals used in plant protection
- KU28. basic components of a sprayer and duster
- KU29. different types of nozzles
- KU30. common repair and maintenance needs of different types of planting equipment
- KU31. defects and adjustments of various components of a sprayer/ duster
- KU32. composition and the process of formulating various plant protection chemicals
- KU33. calibration of plant protection equipment
- KU34. first aid and treatment for chemical poisoning
- KU35. various components of reapers and power threshers such as cutter bar, reel/ star wheel, windrower, threshing drum, sieves, blowers/ aspirators, etc
- KU36. various types of attachments used with post-harvest equipment
- KU37. relevant adjustments to operate post-harvest equipment
- KU38. common defects with reapers, threshers and post-harvest equipment
- KU39. service and maintenance procedures for harvesting and post-harvest machineries
- KU40. correct process to replace components in different types of reapers, threshers and post-harvest equipment
- KU41. organisational procedure to deal with workplace emergencies/ accidents
- KU42. Dangerous Machines (Regulation) Act, 1983

Generic Skills (GS)

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

- GS1. maintain work-related notes and records
 - GS2. read the relevant literature to get the latest updates about the field of work
 - GS3. listen attentively to understand the information being shared
 - GS4. communicate politely and professionally
 - GS5. plan and prioritize tasks to ensure timely completion
 - GS6. take quick decisions to deal with workplace emergencies/ accidents
 - GS7. identify possible disruptions to work and take appropriate preventive measures
- GS1. maintain work-related notes and records
- GS2. read the relevant literature to get the latest updates about the field of work
 - GS3. listen attentively to understand the information being shared
 - GS4. communicate politely and professionally
 - GS5. plan and prioritize tasks to ensure timely completion
 - GS6. take quick decisions to deal with workplace emergencies/ accidents
 - GS7. identify possible disruptions to work and take appropriate preventive measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Troubleshoot the issues in the farm equipment/machinery</i>	15	15	-	5
PC1 Gather detailed information on the issue (e.g., when it occurs, under what conditions)	-	-	-	-
PC2 Interview farmers/operators for insights on issues being faced	-	-	-	-
PC3 Identify symptoms of malfunction (e.g., unusual noises, reduced performance)	-	-	-	-
PC4 Use multimeters, pressure gauges, and other tools to test electrical and hydraulic components	-	-	-	-
PC5 Perform load tests on engines and motors	-	-	-	-
PC6 Isolate systems to identify the source of the problem (e.g., electrical, hydraulic, mechanical).	-	-	-	-
PC7 Test individual components and circuits	-	-	-	-
PC8 Refer to equipment manuals for troubleshooting charts and procedures	-	-	-	-
PC9 Follow manufacturer's guidelines for specific issues	-	-	-	-
PC10 select machinery and equipment required for repair and maintenance work	-	-	-	-
PC11 use personal protective equipment according to workplace procedures and operation and maintenance manuals	-	-	-	-
<i>Carry out repair and maintenance of tillage and soil farming</i>	20	20	-	5
PC12 Carry out repair and maintenance of mouldboard plough	-	-	-	-
PC13 Carry out repair and maintenance of disc plough	-	-	-	-
PC14 Carry out repair and maintenance of disc harrow	-	-	-	-

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PC15 Carry out repair and maintenance of cultivator				
<i>Carry out repair and maintenance of seed drills and planters</i>	10	15		5
PC16 Carry out repair and maintenance of seed/ fertilizer boxes and machine/ metering rollers				
PC17 Carry out repair and maintenance of power transmission system				
PC18 Carry out repair and maintenance of seed and fertilizer metering and application equipment				
PC19 Carry out repair and maintenance of seed and fertilizer tubes				
<i>Carry out repair and maintenance of plant protection equipment</i>	10	10		5
PC20 Check and clean the tank, nozzle and filters				
PC21 Carry out maintenance of pump assembly and pressure regulator				
<i>Carry out repair and maintenance of harvesting and post-harvesting machineries</i>	30	30		5
PC22 Carry out repair and maintenance of reaper				
PC23 Carry out repair and maintenance of thresher				
PC24 Carry out repair and maintenance of other post-harvesting machineries such as cleaner/ grader, drying equipment, rice/ flour/ spice mill, oil expelling machines, chaff cutters etc				
NOS Total	85	90		25

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1152
NOS Name	Troubleshooting, repair and maintenance of farm equipment/machinery
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Farm Machinery, Equipment Operation And Maintenance
NSQF Level	4
Credits	4
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	30/11/2024
NSQC Clearance Date	30/05/2024

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AGR/N1153: Digitized documentation and record keeping of repair and maintenance activities

Description

This OS unit deals with effectively digitizing and maintaining the record of the repair and maintenance activities to improve the operational efficiency.

Scope

The scope covers the following :

- Digital documentation of the inventory and the customer database
- Record-keeping of the operational activities

Elements and Performance Criteria

Digital documentation of the inventory and the customer database

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

- PC1. use the relevant computer software/ application to prepare and maintain the business records
- PC2. maintain the record of various machineries/ tools/ equipment used or hired
- PC3. create a database of different manufacturers/ suppliers of various machineries/ tools/ equipment including product warranty information, maintenance schedule, contact details, etc.
- PC4. maintain the record of farmer visits, frequency of visit, sales/ services along with any other relevant details

Record-keeping of the operational activities

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

- PC5. maintain the record of breakdown/ repair/ maintenance of all machineries/ tools/ equipment
- PC6. document all maintenance and repair activities in detailed logs
- PC7. record parts used, tasks performed, and any issues encountered during maintenance.
- PC8. complete and close out work orders, ensuring all required information is accurately recorded.
- PC9. Report on the status of work orders to supervisors
- PC10. record the payments into and from the centre's bank account accurately
- PC11. create regular backup of the centre's reports and data to prevent accidental loss
- PC12. ensure safe storage of various documents and reports

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. documentation and record-keeping methods
- KU2. use of the relevant computer applications for maintaining the centre's business records

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- KU3. different online cloud storage services for backing up business data and reports
- KU4. various electronic payments methods available in India such as Aadhar Enabled Payment System (AEPS), Bharat Interface for Money (BHIM) app, mobile or e-wallets, UPI, USSD, etc.
- KU5. legal and standard requirements and process with respect to business documentation and record-keeping
- KU6. relevant details to be recorded in business reports such as data on marketing, logistics, distribution and sale
- KU7. safe handling and storage of reports and documents

Generic Skills (GS)

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

- GS1. maintain work-related notes and records
- GS2. read the relevant literature to get the latest updates about the field of work
- GS3. listen attentively to understand the information being shared
- GS4. communicate politely and professionally
- GS5. plan and prioritize tasks to ensure timely completion
- GS6. take quick decisions to deal with workplace emergencies/ accidents
- GS7. identify possible disruptions to work and take appropriate preventive measures

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Digital documentation of the inventory and the customer database</i>	5	15	-	5
PC1. use the relevant computer software/ application to prepare and maintain the business records	-	-	-	-
PC2. maintain the record of various machineries/ tools/ equipment used or hired	-	-	-	-
PC3. create a database of different manufacturers/ suppliers of various machineries/ tools/	-	-	-	-
PC4. equipment including product warranty information, maintenance schedule, contact details, etc.	-	-	-	-
<i>Record-keeping of the operational activities</i>	5	15	-	5
PC5. maintain the record of breakdown/ repair/ maintenance of all machineries/ tools/ equipment	-	-	-	-
PC6. document all maintenance and repair activities in detailed logs	-	-	-	-
PC7. record parts used, tasks performed, and any issues encountered during maintenance.	-	-	-	-
PC8. complete and close out work orders, ensuring all required information is accurately recorded.	-	-	-	-
PC9. Report on the status of work orders to supervisors	-	-	-	-
PC10. record the payments into and from the centre's bank account accurately	-	-	-	-
PC11. create regular backup of the centre's reports and data to prevent accidental loss	-	-	-	-

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PC12. ensure safe storage of various documents and reports	-	-	-	-
<i>NOS Total</i>	10	30		10

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N1153
NOS Name	Digitized documentation and record keeping of repair and maintenance activities
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Farm Machinery, Equipment Operation And Maintenance
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	30/05/2024
Next Review Date	30/11/2024
NSQC Clearance Date	30/05/2024

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AGR/N9903: Maintain health and safety at the workplace

Description

This OS is about maintaining health and safety of self and other co-workers at the workplace

Scope

The scope covers the following :

- Maintain personal hygiene
- Maintain clean and safe workplace
- Administer appropriate emergency procedures

Elements and Performance Criteria

Maintain personal hygiene

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

- PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals
- PC2. wash the worn clothes with soap and sun dry before use next time
- PC3. ensure the face is covered with mask or three layers of cloth-piece
- PC4. follow the workplace sanitization norms including distancing from sick people

Maintain clean and safe workplace

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

- PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor
- PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy
- PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards
- PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices
- PC9. sanitize equipment, tools and machinery before and after use
- PC10. use equipment and materials safely and correctly and return the same to designated storage after use
- PC11. dispose waste safely and correctly in the designated area
- PC12. recognize risks to bystanders and take required action to reduce the risks
- PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed
- PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger
- PC15. follow government / workplace advisories incase of outbreak of any disease/disaster

Administer appropriate emergency procedures

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

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- PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements
- PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements
- PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques
- PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- PC20. report details of first aid administered in accordance with workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant legislation, standards, policies, and procedures at work
- KU2. relevant health and safety requirements applicable to the work environment
- KU3. own job role and responsibilities and sources of information pertaining to work
- KU4. who to approach for support in order to obtain work related information, clarifications and support
- KU5. importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6. personal hygiene and fitness requirement
- KU7. importance of sanitization of the workplace
- KU8. types of Personal Protective Equipment (PPE) required at the workplace and their importance
- KU9. the correct and safe way to use materials and equipment required for the work
- KU10. the importance of good housekeeping at the workplace
- KU11. safe waste disposal methods
- KU12. methods for minimizing environmental damage during work
- KU13. the risks to health and safety including contagious diseases and the measures to be taken to control those risks in the area of work
- KU14. workplace procedures and requirements for the prevention and treatment of workplace injuries/illnesses.
- KU15. basic emergency first aid procedure
- KU16. local emergency services
- KU17. why accidents, incidents and problems should be reported and the appropriate actions to be taken

Generic Skills (GS)

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

- GS1. record the data as per the requirement
- GS2. report problems to the appropriate personnel in a timely manner

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- GS3. read instruction manual for hand tool and equipments
- GS4. communicate clearly and effectively with co-workers, and other stakeholders
- GS5. comprehend information shared by senior people and experts
- GS6. make decisions pertaining to personal hygiene and safety
- GS7. schedule daily activities and draw up priorities
- GS8. manage relationships with co-workers, manager and other stakeholders
- GS9. assess situation and identify appropriate control measures

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain personal hygiene</i>	10	5	-	10
PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals	-	-	-	-
PC2. wash the worn clothes with soap and sun dry before use next time	-	-	-	-
PC3. ensure the face is covered with mask or three layers of cloth-piece	-	-	-	-
PC4. follow the workplace sanitization norms including distancing from sick people	-	-	-	-
<i>Maintain clean and safe workplace</i>	15	15	-	15
PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor	-	-	-	-
PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy	-	-	-	-
PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards	-	-	-	-
PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices	-	-	-	-
PC9. sanitize equipment, tools and machinery before and after use	-	-	-	-
PC10. use equipment and materials safely and correctly and return the same to designated storage after use	-	-	-	-
PC11. dispose waste safely and correctly in the designated area	-	-	-	-
PC12. recognize risks to bystanders and take required action to reduce the risks	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed	-	-	-	-
PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger	-	-	-	-
PC15. follow government / workplace advisories incase of outbreak of any disease/disaster	-	-	-	-
<i>Administer appropriate emergency procedures</i>	15	5	-	10
PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements	-	-	-	-
PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements	-	-	-	-
PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques	-	-	-	-
PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	-	-	-	-
PC20. report details of first aid administered in accordance with workplace procedures	-	-	-	-
NOS Total	40	25	-	35

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	4.0
Last Reviewed Date	30/05/2024
Next Review Date	30/05/2027
NSQC Clearance Date	30/05/2024

Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

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

Scope

The scope covers the following :

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

Elements and Performance Criteria

Introduction to Employability Skills

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

- PC1. identify employability skills required for jobs in various industries
- PC2. identify and explore learning and employability portals

Constitutional values - Citizenship

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

- PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

- PC5. recognize the significance of 21st Century Skills for employment
- PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

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- PC7. use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

- PC10. understand the difference between job and career
- PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

- PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13. work collaboratively with others in a team

Diversity & Inclusion

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

- PC14. communicate and behave appropriately with all genders and PwD
- PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

- PC16. select financial institutions, products and services as per requirement
- PC17. carry out offline and online financial transactions, safely and securely
- PC18. identify common components of salary and compute income, expenses, taxes, investments etc
- PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

- PC20. operate digital devices and carry out basic internet operations securely and safely
- PC21. use e-mail and social media platforms and virtual collaboration tools to work effectively
- PC22. use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

- PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

- PC26. identify different types of customers
- PC27. identify and respond to customer requests and needs in a professional manner.

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PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

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- GS3. behave politely and appropriately with all
- GS4. how to work in a virtual mode
- GS5. perform calculations efficiently
- GS6. solve problems effectively
- GS7. pay attention to details
- GS8. manage time efficiently
- GS9. maintain hygiene and sanitization to avoid infection

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	30/05/2024
Next Review Date	30/05/2027
NSQ Clearance Date	30/05/2024

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) (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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

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(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
AGR/N1151. General repair and maintenance work of farm equipment/machinery	35	45	-	20	100	20
AGR/N1152. Troubleshooting, repair and maintenance of farm equipment/machinery	85	90	-	25	200	20
AGR/N1153. Digitized documentation and record keeping of repair and maintenance activities	10	30	-	10	50	20
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	15
DGT/VSQ/N0102. Employability Skills (60 Hours)	20	30	0	0	50	5
Total	190	220	-	90	500	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
PwD	Persons with Disabilities
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment

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.