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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

Qualification Pack

Transforming the skill landscape

Supervisor Maintenance (Infrastructure Equipment)

QP Code: IES/Q1201

Version: 2.0

NSQF Level: 5

Infrastructure Equipment Skill Council || Avik Royale – First Floor (Next of Vijaya Bank), No.6, 50 feet Main Road, Avalahalli Extension, Girinagar
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Contents

IES/Q1201: Supervisor Maintenance (Infrastructure Equipment)

Brief Job Description

Coordinates and supervises the activities of maintenance staff engaged in maintaining and repairing of infrastructure equipment used for activities such as construction, earth moving, transporting material etc.

Personal Attributes

The individual should be able to direct individuals working under him and take decisions. He/she should be highly result oriented and have a service orientation. The individual should also be able to demonstrate technical competence with diagnostics. He/she should adhere to processes and be physically fit.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. IES/N1201: Supervise preventive maintenance and minor repair work
2. IES/N1202: Supervise corrective maintenance of equipment
3. IES/N7602: Comply with workshop, health and safety guidelines

Qualification Pack (QP) Parameters

Sector	Infrastructure Equipment
Sub-Sector	Equipment Service and spares
Occupation	Managerial & Supervisory - Equipment Service and Spares
Country	India
NSQF Level	5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 3122.5200 Supervisor Maintenance

Minimum Educational Qualification & Experience	Graduate with 1 Year of experience OR Diploma (3-year Diploma (after 12th Class) with 2 years experience in the relevant Field OR 12th Class + 4 years of relevant experience OR Qualification of NSQF Level 4 with 2 years of relevant experience) with 2 Years of experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	On-the-job training on Quality Systems, Advanced diagnostics/ Maintenance related courses by OEMs
Minimum Job Entry Age	20 Years
Last Reviewed On	26/05/2022
Next Review Date	26/05/2025
NSQC Approval Date	26/05/2022
Version	2.0
Reference code on NQR	2022/IS/IESC/05909
NQR Version	1.0

IES/N1201: Supervise preventive maintenance and minor repair work

Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for planning, supervision and documentation related to equipment maintenance.

Scope

The scope covers the following :

- Planning and resource allocation
- Safety, Health and Environment (SHE) adherence
- Maintenance work
- Effectiveness of maintenance work
- Documentation

Elements and Performance Criteria

Planning and resource allocation

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

PC1. prepare the preventive maintenance schedule and checklists as per operation and maintenance manual

PC2. communicate maintenance plan to all the stakeholders like site supervisor/ project manager/ maintenance manager/ labor in-charge/ material manager/ contract labor etc as per organizational protocol

PC3. arrange for procurement of machine / equipment parts whenever necessary as per organization protocol

PC4. make the availability of spares and consumables for repair work or raise indent for the same much before the preventive maintenance schedule

PC5. plan and schedule availability of mechanics, technicians, labor in adequate numbers to carry out preventive maintenance

PC6. arrange for inspection and validation, if all the tools used to monitor the functioning of the equipment are calibrated and certified by competent authority

PC7. planning and operationalization of the field workshop/ service, as required

PC8. supervise equipment commissioning/ installation process

Safety, Health and Environment (SHE) adherence

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

PC9. comply with all organizational guidelines, SHE policy and quality standards during equipment maintenance

PC10. supervise the enforcement of all HSE related guidelines in equipment maintenance

PC11. carry out periodic walk-through to ensure that the service/ field workshop area is clean and free from hazards as per the safety, health and environmental policy/ guidelines

PC12. supervise the storage, handling and disposal of waste based on environmental guidelines at the work place

Maintenance work

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

PC13. share equipment wise checklists and work schedule with the mechanics to ensure correct type of service (daily, weekly, monthly, quarterly, half yearly and yearly)/ maintenance activities are completed

PC14. assist the manager in monitoring maintenance operations with regards to timelines and budgets

PC15. ensure that third party equipment installed at the work place; preventive maintenance as per agreed schedule/ annual maintenance contract with the vendor

PC16. help and guide the mechanics while they are carrying out the repairs, as required

PC17. check the workmanship of mechanics/ technicians and other personnel

PC18. ensure the faulty components are replaced / repaired on the site or sent to vendor for repair through material department

Effectiveness of maintenance work

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

PC19. assist the workshop / P&M manager in ensuring the quality of workmanship of third party vendors

PC20. check if the preventive maintenance work is complete as per the checklists provided to all the mechanics

PC21. get a sign-off from the end user of the equipment like site engineer and / or project head as per organizational protocol

Documentation

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

PC22. document the details of the vendors in log-books / organizational reports/ MIS/ vendors worksheets etc. as per organizational protocol

PC23. complete documentation applicable to the role like reports, preventive maintenance log-books, spare parts usage log-books, sign-off reports, management information reports and other reports as per the quality & reporting standards applicable to the organization

PC24. keep all the records in a way and at a place where it is easily accessible to the relevant personnel

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the organizations procedures and guidelines related to breakdown & maintenance services

KU2. the performance standards & procedures followed by the organization

KU3. reporting structure in the organization

KU4. escalation matrix for reporting unresolved problems

KU5. timeframe in which the complaint/problem should be resolved

KU6. work goal and review mechanism with supervisor for obtaining / giving feedback related to performance process

KU7. location of tools and equipment

KU8. contact person in case of queries on procedure or equipment

KU9. process sequence for commissioning / installation of equipment
KU10. contact details of the procurement team and process for procurement of equipment, spares and consumables
KU11. location and process for storage and disposal of waste material, as per the environmental policy
KU12. SHE / safety policy of the organization
KU13. standard operating procedure (SOP) of maintenance work in the department
KU14. quality / standards in operation in the organization
KU15. SHE or any other safety standards in operation in the organization
KU16. risk impact of maintenance operations
KU17. original equipment manufacturers guide book on product usage and repair
KU18. calibration of tools used to measure the performance of equipment
KU19. procedure to allocate job among a team of mechanics based on their abilities, skills and units in which a job can be divided
KU20. process and elements of setting up and operationalizing a field workshop
KU21. installation / commissioning process and stages for various types of p&m equipment
KU22. different she related processes to be carried out during operations
KU23. methods to enforce she policy guidelines in operations
KU24. safety risks and hazards at workshop and means to mitigate these
KU25. risk & impact of not doing preventive maintenance
KU26. escalation matrix for highlighting incidents / system failures / repeated failures/ probable failures / obsoleteness etc
KU27. spare parts management and procurement process
KU28. method of preparing daily schedules and checklists for team members
KU29. review process for verifying correctness of work carried out
KU30. types of documents, records & reports prevalent in the organization
KU31. process of obtaining sign-off in the organization / from customers

Generic Skills (GS)

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

GS1. record any deviations / incidents as per prescribed norms
GS2. document and report any health and safety related incidents / accidents
GS3. read and comprehend basic english to read manuals of operations
GS4. read all organizational and equipment related health and safety manuals and documents
GS5. read instructions, guidelines/procedures/rules
GS6. give clear instructions to co-workers, subordinates others
GS7. make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down procedure and guidelines
GS8. work with supervisors/ team mates to carry out work related tasks

GS9. plan work according to the required schedule and location

GS10. ensure all customer needs are assessed and every effort is made to provide satisfactory service

GS11. assess, review that all requests are effectively allocated

GS12. analyze, evaluate and apply the information gathered from observation, experience, reasoning or communication to act efficiently

GS13. examine, evaluate and apply knowledge acquired from observation, logic or convey in order to perform effectively

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Planning and resource allocation	**3**	**23**	**-**	**-**
PC1. prepare the preventive maintenance schedule and checklists as per operation and maintenance manual	-	3	-	-
PC2. communicate maintenance plan to all the stakeholders like site supervisor/ project manager/ maintenance manager/ labor in-charge/ material manager/ contract labor etc as per organizational protocol	1	3	-	-
PC3. arrange for procurement of machine / equipment parts whenever necessary as per organization protocol	-	3	-	-
PC4. make the availability of spares and consumables for repair work or raise indent for the same much before the preventive maintenance schedule	1	3	-	-
PC5. plan and schedule availability of mechanics, technicians, labor in adequate numbers to carry out preventive maintenance	-	3	-	-
PC6. arrange for inspection and validation, if all the tools used to monitor the functioning of the equipment are calibrated and certified by competent authority	1	3	-	-
PC7. planning and operationalization of the field workshop/ service, as required	-	3	-	-
PC8. supervise equipment commissioning/ installation process	-	2	-	-
Safety, Health and Environment (SHE) adherence	**2**	**9**	**-**	**-**
PC9. comply with all organizational guidelines, SHE policy and quality standards during equipment maintenance	1	3	-	-
PC10. supervise the enforcement of all HSE related guidelines in equipment maintenance	-	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. carry out periodic walk-through to ensure that the service/ field workshop area is clean and free from hazards as per the safety, health and environmental policy/ guidelines	1	2	-	-
PC12. supervise the storage, handling and disposal of waste based on environmental guidelines at the work place	-	2	-	-
Maintenance work	**3**	**12**	**-**	**-**
PC13. share equipment wise checklists and work schedule with the mechanics to ensure correct type of service (daily, weekly, monthly, quarterly, half yearly and yearly)/ maintenance activities are completed	1	2	-	-
PC14. assist the manager in monitoring maintenance operations with regards to timelines and budgets	-	2	-	-
PC15. ensure that third party equipment installed at the work place; preventive maintenance as per agreed schedule/ annual maintenance contract with the vendor	1	2	-	-
PC16. help and guide the mechanics while they are carrying out the repairs, as required	-	2	-	-
PC17. check the workmanship of mechanics/ technicians and other personnel	-	2	-	-
PC18. ensure the faulty components are replaced / repaired on the site or sent to vendor for repair through material department	1	2	-	-
Effectiveness of maintenance work	**1**	**6**	**-**	**-**
PC19. assist the workshop / P&M manager in ensuring the quality of workmanship of third party vendors	-	2	-	-
PC20. check if the preventive maintenance work is complete as per the checklists provided to all the mechanics	-	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. get a sign-off from the end user of the equipment like site engineer and / or project head as per organizational protocol	1	2	-	-
Documentation	**6**	**5**	**-**	**-**
PC22. document the details of the vendors in log-books / organizational reports/ MIS/ vendors worksheets etc. as per organizational protocol	2	2	-	-
PC23. complete documentation applicable to the role like reports, preventive maintenance log-books, spare parts usage log-books, sign-off reports, management information reports and other reports as per the quality & reporting standards applicable to the organization	2	2	-	-
PC24. keep all the records in a way and at a place where it is easily accessible to the relevant personnel	2	1	-	-
NOS Total	**15**	**55**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	IES/N1201
NOS Name	Supervise preventive maintenance and minor repair work
Sector	Infrastructure Equipment
Sub-Sector	Equipment Service and spares
Occupation	Managerial & Supervisory - Equipment Service and spares
NSQF Level	5
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022

IES/N1202: Supervise corrective maintenance of equipment

Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for supervising corrective maintenance of Plant and Machinery (P&M) equipment

Scope

The scope covers the following :

- Avoid unscheduled break-down work
- Documentation and Reporting

Elements and Performance Criteria

Avoid unscheduled break-down work

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

PC1. formulate in consultation with the P&M/ Workshop Maintenance Manager the system of maintenance cycle for Plant & machinery (P&M)

PC2. divide the manpower of mechanics and other support personnel into teams and make them responsible for planned and unplanned work, based on the frequency and severity of breakdowns

PC3. plan for natural and manmade contingencies

PC4. create a predictive tests and analysis such as pressure , temperature, wear & tear checks, oil leakage test, hydraulic systems check, engine stress and gas exhaust system tests, wire life assessments etc. in consultation and advice of manager

PC5. provide data to manager about key performance parameters (like mean time between break -downs, cost of maintenance, power consumption, water consumption, oil and gas consumption, manpower utilization etc) as per cma procedures

PC6. design a system by which the supervisor is informed about the break-down as soon as it occurs

PC7. identify the problem quickly by performing diagnostic breakdown analysis, study the equipment manuals

PC8. cordon off the area, switch off power source, move personnel to safe area, in-case of an emergency

PC9. deploy mechanics to address the break down, as per organization protocols

PC10. take immediate action so that the break down is rectified

PC11. run the equipment after the repair to ensure its working appropriately and safely

PC12. note down all the critical parameters of performance of the equipment post repair

PC13. take sign off from production/ operation/ project manager under whose jurisdiction the equipment is working

Documentation and Reporting

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

PC14. give information and data to manager so as to make changes, if any, in the preventive maintenance schedule

PC15. ensure all the relevant stakeholders are informed about the rectification

PC16. ensure entries are made in log-books, ERP and other organization specified reports

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the organizations procedures and guidelines related to breakdown & maintenance services

KU2. the performance standards & procedures followed in the organization

KU3. reporting structure in the organization

KU4. escalation matrix for reporting unresolved problems

KU5. time frame in which the complaint/problem should be resolved

KU6. work goal and review mechanism with supervisor for obtaining / giving feedback related to performance process

KU7. location and usage of special tools

KU8. contact person in case of queries on procedure or products

KU9. location and process for storage and disposal of waste material as per the environmental policy

KU10. safety policy of the company

KU11. the usage cycle of existing equipment and machinery

KU12. dimensions and types of plant & machinery (p&m) equipment deployed

KU13. design of existing static equipment

KU14. layouts of existing static equipment

KU15. drawings and manuals of moving equipment

KU16. manpower hiring & allocation policy as required

KU17. material purchase policy as applicable

KU18. the process to manage inventory for the various material procured

KU19. sequence of operation that needs to be performed

KU20. the method to extract and use information from the relevant areas to assist in the diagnosis

KU21. techniques to rectify the fault in the engine of the infrastructure equipment

KU22. the manufacturer's specification of the engine in use

KU23. techniques used to diagnose the faults (such as sensory information - sight, sound, smell, touch;, aural, visual and functional checks, taking measurements and use of equipment self-diagnostics) in the equipment

KU24. usage of various fault diagnostic equipment to investigate the problem in the equipment (such as multimeter, pressure gauges, thermal measuring equipment)

KU25. procedure to remove components from engine system without damage to the components or surrounding structure

KU26. usage of a various hand tools (such as spanners, sockets, screwdrivers, pliers, torque wrenches)

KU27. methods to check that the tools and equipment to be used are correctly calibrated and are in a safe, tested and serviceable condition

KU28. method to use all tools correctly, check and store after use

KU29. technique to lay the removed components out in a logical sequence to aid re-assembly

KU30. methods to keep component parts together or in the order that they were removed

KU31. techniques of inspecting removed components of engine

KU32. technique to check for damage and wear in engine

KU33. the equipment used in the rectification operations (such as alignment tools, torque wrenches, presses)

KU34. methods to rectify the fault using methods such as component replacement, adjustments, repair and refitting techniques

KU35. technique to carry out visual, aural, functional and measurement tests

KU36. the expected outcomes of the tests being conducted

KU37. problems with the diagnosis and rectification operations

KU38. process of informing appropriate people of non-conformances

KU39. techniques to clean/service different parts of engine different jigs and fixtures used

KU40. method to fill different reports/templates followed in the organization

Generic Skills (GS)

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

GS1. record any deviations/ incidents as per prescribed norms

GS2. read and comprehend basic english to read manuals of operations

GS3. read instructions, guidelines/procedures/rules related to the worksite and equipment operations

GS4. give clear instructions to co-workers, subordinates and other personnel

GS5. make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down procedure and guidelines

GS6. think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)

GS7. make an appropriate timely decision in responding to emergencies/accidents in line with organizational/ worksite guidelines

GS8. work with supervisors/ team mates to carry out work related tasks

GS9. plan work according to the required schedule and location

GS10. review and ensure regular maintenance on a daily basis before machine operations

GS11. ensure all customer needs are assessed and every effort is made to provide satisfactory service

GS12. assess and review that all customer requests are effectively allocated

GS13. refer problems outside area of responsibility to appropriate person

GS14. use the diagnosis results to take an appropriate decision on repair or replacement of component

GS15. analyse and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

GS16. evaluate the criticality of any damage to the appropriate equipment and take appropriate action

GS17. analyse, evaluate and apply the information gathered from observation, experience, reasoning or communication to act efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Avoid unscheduled break-down work	**9**	**34**	**-**	**-**
PC1. formulate in consultation with the P&M/ Workshop Maintenance Manager the system of maintenance cycle for Plant & machinery (P&M)	-	3	-	-
PC2. divide the manpower of mechanics and other support personnel into teams and make them responsible for planned and unplanned work, based on the frequency and severity of breakdowns	-	3	-	-
PC3. plan for natural and manmade contingencies	1	3	-	-
PC4. create a predictive tests and analysis such as pressure , temperature, wear & tear checks, oil leakage test, hydraulic systems check, engine stress and gas exhaust system tests, wire life assessments etc. in consultation and advice of manager	1	3	-	-
PC5. provide data to manager about key performance parameters (like mean time between break -downs, cost of maintenance, power consumption, water consumption, oil and gas consumption, manpower utilization etc) as per cma procedures	1	3	-	-
PC6. design a system by which the supervisor is informed about the break-down as soon as it occurs	1	3	-	-
PC7. identify the problem quickly by performing diagnostic breakdown analysis, study the equipment manuals	1	3	-	-
PC8. cordon off the area, switch off power source, move personnel to safe area, in-case of an emergency	1	3	-	-
PC9. deploy mechanics to address the break down, as per organization protocols	-	2	-	-
PC10. take immediate action so that the break down is rectified	-	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. run the equipment after the repair to ensure its working appropriately and safely	1	2	-	-
PC12. note down all the critical parameters of performance of the equipment post repair	1	2	-	-
PC13. take sign off from production/ operation/ project manager under whose jurisdiction the equipment is working	1	2	-	-
Documentation and Reporting	**1**	**6**	**-**	**-**
PC14. give information and data to manager so as to make changes, if any, in the preventive maintenance schedule	1	2	-	-
PC15. ensure all the relevant stakeholders are informed about the rectification	-	2	-	-
PC16. ensure entries are made in log-books, ERP and other organization specified reports	-	2	-	-
NOS Total	**10**	**40**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	IES/N1202
NOS Name	Supervise corrective maintenance of equipment
Sector	Infrastructure Equipment
Sub-Sector	Equipment Service and spares
Occupation	Managerial & Supervisory - Equipment Service and spares
NSQF Level	5
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022

IES/N7602: Comply with workshop, health and safety guidelines

Description

This unit is about adhering to health and safety requirements at the service workshop during equipment maintenance.

Scope

The scope covers the following :

- Service workshop health and safety

Elements and Performance Criteria

Service workshop health and safety

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

PC1. comply with all latest/current workshop safety, personal health, security and environmental related regulations and guidelines

PC2. inspect the work area and ensure it is safe from hazards, clean and with adequate lighting and ventilation as applicable, to enable repairs to be carried out efficiently

PC3. use appropriate personal protective clothing and equipment for various tasks and work conditions as per regulations

PC4. lift or haul as necessary, various tools and equipment safely from stowage area to repair bay as per the laid down procedures

PC5. carry out all repairs and maintenance tasks safely and correctly as per the manufacturers workshop procedures and guidelines

PC6. store the tools and equipment, post usage, at the designated places and ensure they are not left behind in the repair bay

PC7. keep the work area free from clutter and spillage on a regular basis to maintain basic hygiene and cleanliness at all times

PC8. handle the storage and disposal of waste including hazardous materials as per the safety, health and environmental regulations

PC9. operate various types and grades of fire extinguishers, as per the laid down procedures

PC10. support in administering basic first aid at the spot and report to supervisor, as required, in case of an accident needing evacuation

PC11. respond promptly and appropriately to any accident / incident or emergency, within the limits of ones roles and responsibilities

PC12. report and record, as applicable, details related to operations, incidents or accidents, in a factually correct manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisations latest/current workshop safety, personal health, security and environmental related policies, regulations and guidelines

KU2. organisations reporting structure and contact details of personnel responsible for health, safety and environmental related matters

KU3. location of workshop stores for tools and equipment, first aid station and safe assembly points/areas in case of an emergency

KU4. contact details of personnel to be reached out to in case of emergencies or accidents/incidents including civic agencies like police, fire and hospital services

KU5. types, use and importance of personal protective equipment and clothing

KU6. various types of safety signs and warnings and their meaning

KU7. types of common hazards and risks at the workshop including fire, mechanical and electrical related

KU8. safe working practices with various workshop tools and equipment, and other facilities

KU9. safe working practices while carrying out various maintenance operations adhering to the manufacturers guidelines and procedures

KU10. procedure for safe lockdown/shutdown of machinery in case of an emergency in the workshop

KU11. guidelines for transport, storage and disposal of hazardous materials and waste

KU12. types of various fire extinguishers, their application and operating procedure

KU13. basic first aid treatment for common injuries in the workshop like cuts and bleeding, sprains and fractures, minor burns, eye injuries and electrical shock

KU14. reporting and documentation procedures related to health, safety, environmental and security matters

KU15. the ways to optimize the usage of materials and conservation of electricity

KU16. respect everyone without any personal bias like gender, disability, caste, religion, colour, sexual orientation and culture

Generic Skills (GS)

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

GS1. read and interpret signs, symbols, diagrams and decals both on the equipment and in the workshop

GS2. read and understand all safety manuals related to equipment service and repairs; and workshop equipment including facilities operation

GS3. read and understand all health and safety guidelines; environmental regulations and bulletins issued from time to time

GS4. use correct terms/phrases while interacting with team members and supervisor

GS5. give clear and concise instructions and advisories as applicable to team members and others to enable tasks to be completed safely and in time

GS6. organize own work area to include tools and equipment; time plan to minimize any risks related to health and safety

GS7. monitor progress of work regularly to assess delays and initiate remedial measures including timely escalation if beyond one's scope or ability

GS8. build and maintain congenial and positive relationships with all team members and other stake holders

GS9. follow up with supervisors/superiors on any unfavorable feedback related to safety and health issues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Service workshop health and safety	**5**	**15**	**-**	**-**
PC1. comply with all latest/current workshop safety, personal health, security and environmental related regulations and guidelines	1	1	-	-
PC2. inspect the work area and ensure it is safe from hazards, clean and with adequate lighting and ventilation as applicable, to enable repairs to be carried out efficiently	1	2	-	-
PC3. use appropriate personal protective clothing and equipment for various tasks and work conditions as per regulations	1	1	-	-
PC4. lift or haul as necessary, various tools and equipment safely from stowage area to repair bay as per the laid down procedures	-	1	-	-
PC5. carry out all repairs and maintenance tasks safely and correctly as per the manufacturers workshop procedures and guidelines	1	2	-	-
PC6. store the tools and equipment, post usage, at the designated places and ensure they are not left behind in the repair bay	-	1	-	-
PC7. keep the work area free from clutter and spillage on a regular basis to maintain basic hygiene and cleanliness at all times	-	1	-	-
PC8. handle the storage and disposal of waste including hazardous materials as per the safety, health and environmental regulations	-	1	-	-
PC9. operate various types and grades of fire extinguishers, as per the laid down procedures	1	1	-	-
PC10. support in administering basic first aid at the spot and report to supervisor, as required, in case of an accident needing evacuation	-	1	-	-
PC11. respond promptly and appropriately to any accident / incident or emergency, within the limits of ones roles and responsibilities	-	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. report and record, as applicable, details related to operations, incidents or accidents, in a factually correct manner	-	1	-	-
NOS Total	**5**	**15**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	IES/N7602
NOS Name	Comply with workshop, health and safety guidelines
Sector	Infrastructure Equipment
Sub-Sector	Equipment Service and spares
Occupation	Equipment Maintenance
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
IES/N1201.Supervise preventive maintenance and minor repair work	15	55	-	-	70	50
IES/N1202.Supervise corrective maintenance of equipment	10	40	-	-	50	30
IES/N7602.Comply with workshop, health and safety guidelines	5	15	-	-	20	20
Total	**30**	**110**	**-**	**-**	**140**	**100**

Acronyms

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

Glossary

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

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to 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.