



Wheel Loader

Wheel Loader Operator

QP Code: IES/Q0105

NSQF Level: 4

Infrastructure Equipment Skill Council || Infrastructure Equipment Skill Council, Avik Royale-First Floor
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Qualification Pack

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IES/Q0105: Wheel Loader Operator

Brief Job Description

A wheel loader operator operates the equipment for efficient transportation of loads to appropriate storage areas or trucks, minimizing contamination. He is also responsible for the maintenance of the equipment.

Personal Attributes

This job requires the individual to have good hand eye coordination as also comply with industry regulations. Willingness to work, strong work ethics, and courteous behaviour with co workers are equally desirable. He should also be physically agile, strong, have good eye sight and not suffer from colour-blindness.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [IES/N0113: Carry out pre-operation checks on wheel loader](#)
2. [IES/N0114: Operate a wheel loader](#)
3. [IES/N0115: Carry out maintenance and troubleshooting on the wheel loader](#)
4. [IES/N7601: Comply with worksite health and safety guidelines](#)

Qualification Pack (QP) Parameters

Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2004/NIL
Minimum Educational Qualification & Experience	8th Class with 2-3 Years of experience In lieu of minimum qualification, the incumbent should have 2 years of experience in operating wheel loader.
Minimum Level of Education for Training in School	

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Pre-Requisite License or Training	1. Certification Training in Wheel Loader Operations preferred.2. Must have a valid Heavy Commercial Vehicle Driving License (HCV)
Minimum Job Entry Age	18 Years
Last Reviewed On	31/03/2015
Next Review Date	30/06/2020
NSQC Approval Date	18/06/2015
Version	1.0

Qualification Pack

IES/N0113: Carry out pre-operation checks on wheel loader

Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that need to be carried out to prepare the wheel loader for a shift.

Scope

This unit/task covers the following: Perform Pre-operation checks Documentation and Reporting

Elements and Performance Criteria

Perform Pre - Operation Checks

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

- PC1.** visually inspect the body components for cracks and bearing wear
- PC2.** inspect the tires, wheels, lug nuts, stem caps for inflation, leaks or damage
- PC3.** check the bucket cutting edge and the lift for excessive damage
- PC4.** check the moldboard, tilt cylinders, lines, hoses for leakage or damage
- PC5.** ensure that the loader frame and arms are not damaged
- PC6.** ensure that the transmission, fuel tank, axles and hydraulic tanks do not have any damage or leakage
- PC7.** check that oil levels of engine, hydraulic tank, fuel tank,, transmission, radiant coolant and brake are as per manufacturers indicators
- PC8.** top up coolant, differential and final drive oil and oil in engine, transmission, hydraulic tank etc. if necessary as per manufacturers indicators
- PC9.** recharge batteries periodically
- PC10.** drain moisture from air tanks in case it is equipped with air brakes
- PC11.** conduct checks to ensure proper condition of parking brake, main horn, reverse horn and head light
- PC12.** conduct visual inspection to check the various controls, gauges, warning lamp and other safety devices
- PC13.** check and adjust driving position, rear and side mirrors, seat belts and set them as per comfort leve
- PC14.** clean air filter dust bowls and check the gasket and inner filter
- PC15.** drain water and sediment from the fuel tank
- PC16.** ensure that all greasing pins and pivots points are appropriately greased
- PC17.** ensure that no one is under or on the machine before operating
- PC18.** ensure that all the safety and maintenance decals are available on the machine

Documentation and Reporting

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

- PC19.** maintain a checking/maintenance logbook to record all activities performed before starting the wheel loader

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PC20. report defects precisely to the supervisor if beyond scope of his role

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organizations procedures and guidelines related to wheel loader operations
- KU2.** job specific documents e.g. daily maintenance checklist, operation manuals etc. and importance of the same
- KU3.** common hazards in the work area and workplace procedures to deal with them
- KU4.** safety policy of the company
- KU5.** emergency organization of the specific work site
- KU6.** risk and impact of not following defined procedures/ work instructions
- KU7.** the performance standards & procedures followed in the company
- KU8.** reporting structure in the company
- KU9.** escalation matrix for reporting unresolved problems
- KU10.** timeframe in which the complaint/problem should be resolved
- KU11.** implications of delays in process to the company
- KU12.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- KU13.** work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process
- KU14.** location of tools
- KU15.** contact person in case of queries on procedure or products
- KU16.** location and process for storage and disposal of waste material disposal of waste material
- KU17.** safety policy of the company
- KU18.** responsibilities of the assigned job role
- KU19.** working of engine, transmission, their use and function
- KU20.** principles of friction
- KU21.** steering mechanisms and correct way of steering on slopes
- KU22.** significance of greasing and oiling parts of a wheel loader that need routine lubrication
- KU23.** procedure of filling diesel, coolant in the machine
- KU24.** method of greasing and lubrication, read and understand the guidelines in the safety and operational manual of the OEM
- KU25.** method to identify the grade and quality of oil to be used
- KU26.** instrument panel, its location and operation
- KU27.** the various types of hand signals used on the site
- KU28.** controls, levers and switches in order to operate the wheel loader appropriately
- KU29.** optimal working condition of wheel loader components
- KU30.** optimal engine oil pressure, radiator coolant temperature
- KU31.** visual checks to identify damage, defects, cracks or leaks beforehand

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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.** use correct technical terms while interacting with supervisor
- GS6.** decide when to conduct maintenance checks
- GS7.** work with supervisors/ team mates to carry out work related tasks
- GS8.** plan work according to the required schedule and location
- GS9.** plan for cleaning and lubricating the wheel loader every day
- GS10.** provide service of the highest order to ensure customer satisfaction
- GS11.** identify immediate or temporary solutions to resolve mechanical issues
- GS12.** judge when to seek assistance from supervisor
- GS13.** identify cause and effect relations in his area of work
- GS14.** analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform Pre - Operation Checks</i>	7	37	-	-
PC1. visually inspect the body components for cracks and bearing wear	1	3	-	-
PC2. inspect the tires, wheels, lug nuts, stem caps for inflation, leaks or damage	1	3	-	-
PC3. check the bucket cutting edge and the lift for excessive damage	-	3	-	-
PC4. check the moldboard, tilt cylinders, lines, hoses for leakage or damage	1	3	-	-
PC5. ensure that the loader frame and arms are not damaged	-	1	-	-
PC6. ensure that the transmission, fuel tank, axles and hydraulic tanks do not have any damage or leakage	1	1	-	-
PC7. check that oil levels of engine, hydraulic tank, fuel tank, transmission, radiant coolant and brake are as per manufacturers indicators	-	3	-	-
PC8. top up coolant, differential and final drive oil and oil in engine, transmission, hydraulic tank etc. if necessary as per manufacturers indicators	1	3	-	-
PC9. recharge batteries periodically	1	1	-	-
PC10. drain moisture from air tanks in case it is equipped with air brakes	-	2	-	-
PC11. conduct checks to ensure proper condition of parking brake, main horn, reverse horn and head light	-	2	-	-
PC12. conduct visual inspection to check the various controls, gauges, warning lamp and other safety devices	-	2	-	-
PC13. check and adjust driving position, rear and side mirrors, seat belts and set them as per comfort level	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. clean air filter dust bowls and check the gasket and inner filter	-	1	-	-
PC15. drain water and sediment from the fuel tank	-	3	-	-
PC16. ensure that all greasing pins and pivots points are appropriately greased	-	1	-	-
PC17. ensure that no one is under or on the machine before operating	-	1	-	-
PC18. ensure that all the safety and maintenance decals are available on the machine	-	1	-	-
<i>Documentation and Reporting</i>	-	2	-	-
PC19. maintain a checking/maintenance logbook to record all activities performed before starting the wheel loader	-	1	-	-
PC20. report defects precisely to the supervisor if beyond scope of his role	-	1	-	-
NOS Total	7	39	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0113
NOS Name	Carry out pre-operation checks on wheel loader
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	31/03/2015
Next Review Date	31/03/2017
NSQC Clearance Date	

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IES/N0114: Operate a wheel loader

Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for operating a wheel loader

Scope

This unit/task covers the following:

- Wheel loader start-up operations
- Load lifting and dumping
- Wheel Loader shut-down process
- Documentation and Reporting

Elements and Performance Criteria

Wheel Loader start-up operations

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

- PC1.** plan and organize the job according to given instructions
- PC2.** inspect the worksite to identify and loose soil, hidden deep trenches or marshy patches where a wheel loader could get stuck
- PC3.** carry out all pre- use and running checks
- PC4.** wear seatbelt and adjust seat position
- PC5.** start the engine using ignition switch
- PC6.** use the priming pump and pre- heater to start the engine in cold weather conditions
- PC7.** determine speed and direction of machine, as per the specified function
- PC8.** use the emergency stop button to disable all power to the wheel loader in case of a crisis, as per operator manual

Load lifting and dumping

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

- PC9.** move levers or controls that operate lifting devices, such as forklifts, lift beams with swivel-hooks, hoists, or elevating platforms, to load, unload, transport, or stack material.
- PC10.** inspect product load for accuracy and confirm with the supervisor
- PC11.** establish weight of load and ensure that it is within safe operational limits of the machine
- PC12.** position material under, over, or around loaded pallets, skids, or boxes and as per job description and safety measures
- PC13.** secure material for transport to designated areas, as per supervisors directions
- PC14.** safely move load around the facility to ensure timely and complete delivery
- PC15.** move controls to drive equipment to transport materials between loading, processing, and storage areas
- PC16.** signal workers to discharge, dump, or level materials when required, as per requirement

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- PC17.** hook tow trucks to trailer hitches and fasten attachments, such as graders, plows, rollers, or winch cables to tractors, using hitch pins as per SOP
- PC18.** turn valves and open chutes to dump, spray, or release materials from dump cars or storage bins into hoppers
- PC19.** estimate the appropriate amount of load to be loaded on the wheel loader to prevent over loading the machine during operations
- PC20.** turn off ignition after finishing operations

Wheel Loader shut- down process

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

- PC21.** ensure gear is in neutral position post usage
- PC22.** idle the equipment for a few minutes post the usage
- PC23.** remove attachments after use
- PC24.** clean and store removed attachments
- PC25.** ensure that the machine is shut down and secured when left unattended
- PC26.** operate the machine in limp back mode in case of equipment malfunction, based on the instructions in the operators manual

Documentation and Reporting

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

- PC27.** follow reporting procedures as laid down by the employer
- PC28.** complete all documentation in the prescribed standards in a timely manner
- PC29.** report and escalate problems/ incidents as required in a timely manner
- PC30.** report defects precisely to the supervisor if beyond scope of his role

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** responsibilities of the assigned job role
- KU2.** job specific documents e.g. daily maintenance checklist and importance of the same
- KU3.** common hazards in the work area and workplace procedures to deal with them
- KU4.** safety policy of the company
- KU5.** emergency organization of the specific work site
- KU6.** risk and impact of not following defined procedures/ work instructions
- KU7.** the performance standards & procedures followed in the company
- KU8.** reporting structure in the company
- KU9.** escalation matrix for reporting unresolved problems
- KU10.** timeframe in which the complaint/problem should be resolved
- KU11.** implications of delays in process to the company
- KU12.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- KU13.** work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process

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- KU14.** location of tools
- KU15.** contact person in case of queries on procedure or products
- KU16.** location and process for storage and disposal of waste material
- KU17.** working of engine, transmission, their use and function
- KU18.** principles of friction
- KU19.** steering mechanisms and correct way of steering on slopes
- KU20.** significance of greasing and oiling parts of the wheel loader
- KU21.** instruments panel, their location and operation
- KU22.** the method of using the limp home function
- KU23.** controls, levers and switches in order to operate the wheel loader properly
- KU24.** optimal working condition of wheel loaders
- KU25.** optimal engine oil pressure, radiator coolant temperature
- KU26.** significance of stabilizers while digging
- KU27.** visual checks to identify damage, defects or leaks beforehand
- KU28.** general safety rules for operating a wheel loader
- KU29.** all signage, safety signs and other emergency signals
- KU30.** correct maintenance procedures for wheel loader
- KU31.** the location and use of the emergency stop button

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.** interpret stakes and signage on the road and during worksite operations
- GS4.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS5.** give clear instructions to co-workers, subordinates and other personnel
- GS6.** use correct technical terms while interacting with supervisor
- GS7.** assess for any damage/faulty component in the wheel loader and take action accordingly
- GS8.** decide when to perform appropriate driving operations i.e forward, reverse, 'u' turn, tight spot
- GS9.** work with supervisors/ team mates to carry out work related tasks
- GS10.** plan work according to the required schedule and location
- GS11.** provide service of the highest order to ensure customer satisfaction
- GS12.** identify immediate or temporary solutions to resolve mechanical issues
- GS13.** judge when to seek assistance from supervisor
- GS14.** identify possible ways to improve operational efficiency
- GS15.** suggest methods to avoid accidents/errors while operating machine



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GS16. analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Wheel Loader start-up operations</i>	2	16	-	-
PC1. plan and organize the job according to given instructions	-	1	-	-
PC2. inspect the worksite to identify and loose soil, hidden deep trenches or marshy patches where a wheel loader could get stuck	1	3	-	-
PC3. carry out all pre- use and running checks	-	3	-	-
PC4. wear seatbelt and adjust seat position	1	3	-	-
PC5. start the engine using ignition switch	-	3	-	-
PC6. use the priming pump and pre- heater to start the engine in cold weather conditions	-	1	-	-
PC7. determine speed and direction of machine, as per the specified function	-	1	-	-
PC8. use the emergency stop button to disable all power to the wheel loader in case of a crisis, as per operator manual	-	1	-	-
<i>Load lifting and dumping</i>	3	20	-	-
PC9. move levers or controls that operate lifting devices, such as forklifts, lift beams with swivel-hooks, hoists, or elevating platforms, to load, unload, transport, or stack material.	1	3	-	-
PC10. inspect product load for accuracy and confirm with the supervisor	-	1	-	-
PC11. establish weight of load and ensure that it is within safe operational limits of the machine	-	1	-	-
PC12. position material under, over, or around loaded pallets, skids, or boxes and as per job description and safety measures	-	1	-	-
PC13. secure material for transport to designated areas, as per supervisors directions	-	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. safely move load around the facility to ensure timely and complete delivery	-	1	-	-
PC15. move controls to drive equipment to transport materials between loading, processing, and storage areas	1	1	-	-
PC16. signal workers to discharge, dump, or level materials when required, as per requirement	-	1	-	-
PC17. hook tow trucks to trailer hitches and fasten attachments, such as graders, plows, rollers, or winch cables to tractors, using hitch pins as per SOP	1	3	-	-
PC18. turn valves and open chutes to dump, spray, or release materials from dump cars or storage bins into hoppers	-	3	-	-
PC19. estimate the appropriate amount of load to be loaded on the wheel loader to prevent over loading the machine during operations	-	3	-	-
PC20. turn off ignition after finishing operations	-	1	-	-
<i>Wheel Loader shut- down process</i>	1	14	-	-
PC21. ensure gear is in neutral position post usage	-	3	-	-
PC22. idle the equipment for a few minutes post the usage	-	3	-	-
PC23. remove attachments after use	-	3	-	-
PC24. clean and store removed attachments	1	1	-	-
PC25. ensure that the machine is shut down and secured when left unattended	-	1	-	-
PC26. operate the machine in limp back mode in case of equipment malfunction, based on the instructions in the operators manual	-	3	-	-
<i>Documentation and Reporting</i>	-	4	-	-
PC27. follow reporting procedures as laid down by the employer	-	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. complete all documentation in the prescribed standards in a timely manner	-	1	-	-
PC29. report and escalate problems/ incidents as required in a timely manner	-	1	-	-
PC30. report defects precisely to the supervisor if beyond scope of his role	-	1	-	-
NOS Total	6	54	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0114
NOS Name	Operate a wheel loader
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	31/03/2015
Next Review Date	31/03/2017
NSQC Clearance Date	

Qualification Pack

IES/N0115: Carry out maintenance and troubleshooting on the wheel loader

Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for performing routine maintenance and troubleshooting on the wheel loader.

Scope

This unit/task covers the following:

- Routine maintenance
- Basic diagnostics and troubleshooting
- Reporting and documentation

Elements and Performance Criteria

Routine maintenance

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

- PC1.** assess the right service schedule by tracking machine operating hours
- PC2.** clean air filter dust bowls at regular intervals
- PC3.** clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals
- PC4.** replenish coolants, lubricants and fluids everyday
- PC5.** grease all greasing pins and pivot points everyday
- PC6.** check battery levels and condition of the terminals and carry out minor adjustments if required
- PC7.** check and maintain the tire rims, air pressure, wheel nits and treads as per manufacturer's indicators

Basic diagnostics and troubleshooting

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

- PC8.** ensure the machine is on firm and level ground before attempting to carry out any maintenance; track machine operating hours to assess the right service schedule
- PC9.** complete timely and legibly daily/ weekly maintenance sheets as provided by the company
- PC10.** ensure that suitable props/ support devices are used and the bucket is not raised while performing maintenance
- PC11.** ensure that no maintenance task on the engine is performed when running or still hot
- PC12.** assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel
- PC13.** diagnose the problem
- PC14.** handle and dispose waste based on environmental guidelines at the work place
- PC15.** follow reporting procedures as laid down by the employer
- PC16.** complete all documentation in the prescribed standards in a timely manner
- PC17.** report and escalate problems/ incidents as required in a timely manner

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PC18. report defects precisely to the supervisor if beyond scope of his role

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** job specific documents e.g. daily maintenance checklist and importance of the same
- KU2.** common hazards in the work area and workplace procedures to deal with them
- KU3.** safety policy of the company
- KU4.** emergency organization of the specific work site
- KU5.** risk and impact of not following defined procedures/ work instructions
- KU6.** the performance standards & procedures followed in the company
- KU7.** reporting structure in the company
- KU8.** escalation matrix for reporting unresolved problems
- KU9.** timeframe in which the complaint/problem should be resolved
- KU10.** implications of delays in process to the company
- KU11.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- KU12.** work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process
- KU13.** location of tools
- KU14.** contact person in case of queries on procedure or products
- KU15.** location and process for storage and disposal of waste material
- KU16.** responsibilities of the assigned job role
- KU17.** control and switches needed to operate the wheel loader appropriately
- KU18.** basic physics and mechanics involved in various functions of the wheel loader
- KU19.** common defects and general causes of breakdown
- KU20.** response to emergency situations
- KU21.** the optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature
- KU22.** possible sources of any unusual sound emanating from the engine

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.** use correct technical terms while interacting with supervisor
- GS6.** decide when to conduct maintenance checks

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- GS7.** evaluate the decision and conduct basic trouble shooting
- GS8.** work with supervisors/ team mates to carry out work related tasks
- GS9.** plan work according to the required schedule and location
- GS10.** plan for regular maintenance on a daily basis before machine operations
- GS11.** provide service of the highest order to ensure customer satisfaction
- GS12.** identify immediate or temporary solutions to resolve mechanical issues
- GS13.** judge when to seek assistance from supervisor
- GS14.** identify possible ways to improve operational efficiency
- GS15.** check for damages and diagnose common problems in the wheel loader and take relevant action
- GS16.** analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Routine maintenance</i>	2	15	-	-
PC1. assess the right service schedule by tracking machine operating hours	1	1	-	-
PC2. clean air filter dust bowls at regular intervals	-	3	-	-
PC3. clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals	1	3	-	-
PC4. replenish coolants, lubricants and fluids everyday	-	1	-	-
PC5. grease all greasing pins and pivot points everyday	-	1	-	-
PC6. check battery levels and condition of the terminals and carry out minor adjustments if required	-	3	-	-
PC7. check and maintain the tire rims, air pressure, wheel nits and treads as per manufacturer's indicators	-	3	-	-
<i>Basic diagnostics and troubleshooting</i>	4	13	-	-
PC8. ensure the machine is on firm and level ground before attempting to carry out any maintenance; track machine operating hours to assess the right service schedule	1	3	-	-
PC9. complete timely and legibly daily/ weekly maintenance sheets as provided by the company	-	1	-	-
PC10. ensure that suitable props/ support devices are used and the bucket is not raised while performing maintenance	-	1	-	-
PC11. ensure that no maintenance task on the engine is performed when running or still hot	-	1	-	-
PC12. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	1	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. diagnose the problem	-	1	-	-
PC14. handle and dispose waste based on environmental guidelines at the work place	-	1	-	-
PC15. follow reporting procedures as laid down by the employer	-	1	-	-
PC16. complete all documentation in the prescribed standards in a timely manner	1	1	-	-
PC17. report and escalate problems/ incidents as required in a timely manner	-	1	-	-
PC18. report defects precisely to the supervisor if beyond scope of his role	1	1	-	-
NOS Total	6	28	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0115
NOS Name	Carry out maintenance and troubleshooting on the wheel loader
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	31/03/2015
Next Review Date	31/03/2017
NSQC Clearance Date	

Qualification Pack

IES/N7601: Comply with worksite health and safety guidelines

Description

This unit is about adhering to health and safety requirements at the worksite during equipment operations.

Scope

This unit/task covers the following: Worksite health and safety

Elements and Performance Criteria

Worksite health and safety

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

- PC1.** comply with safety, health, security and environment related regulations/ guidelines at the work site
- PC2.** use personal protective equipment (ppe) and other safety gear such as seat belt, body protection, respiratory protection, eye protection, ear protection and hand protection
- PC3.** follow safety measures during operations to ensure that the health and safety of self or others (including members of the public) is not at risk
- PC4.** carry out operations as per the manufacturers and worksite related health and safety guidelines
- PC5.** handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines
- PC6.** follow safety regulations and procedures with regard to worksite hazards and risks
- PC7.** operate various grades of fire extinguishers, as applicable
- PC8.** support in administering basic first aid and report to concerned team members, as required, in case of an accident
- PC9.** respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** health, safety, environmental (hse) and security related policies/ guidelines of the organization and the worksite
- KU2.** the importance of complying with health, safety, environmental and security guidelines at the worksite and during operations
- KU3.** contact details of personnel responsible for health, safety and environment (hse) related matters
- KU4.** location of worksite storage, site team and safe assembly points
- KU5.** concerned personnel to reach out in case of emergencies and accidents/ incidents
- KU6.** reporting and documentation procedures for hse and security matters
- KU7.** manufacturers guidelines related to health and safety requirements

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- KU8.** common types of health, safety, environment and security risks related to the worksite and operations
- KU9.** types, use and importance of personal protective equipment (ppe) and other safety gear
- KU10.** safe working practices to avoid common hazards and risks
- KU11.** guidelines for transport, storage and disposal of hazardous materials and waste
- KU12.** types of common hazards and risks at the worksite including fire, electrical, gas emergencies, accidents, incidents, structure collapse, machine breakdown
- KU13.** knowledge of safe lockdown/ stop of machinery use in case of emergencies and incidents/ accidents
- KU14.** types of fire extinguishers and their use
- KU15.** common injuries and appropriate basic first aid treatment eg. electrical shock, bleeding, wounds, fractures, minor burns, eye injuries

Generic Skills (GS)

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

- GS1.** document and report any health and safety related incidents/ accidents
- GS2.** read and comprehend basic english to read manuals of operations
- GS3.** read all organizational and equipment related health and safety manuals and documents
- GS4.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS5.** give clear instructions to co-workers, subordinates and other personnel
- GS6.** use correct technical terms while interacting with supervisor
- GS7.** make an appropriate timely decision in responding to emergencies/accidents in line with organizational/ worksite guidelines
- GS8.** use correct ppe and other safety gear while at the worksite
- GS9.** work with supervisors/ team mates to carry out work related tasks
- GS10.** plan work according to the required schedule and location
- GS11.** build and maintain positive and effective relationships with colleagues and customers
- GS12.** seek appropriate assistance from other sources to resolve problems
- GS13.** assess the intensity of the fire accident and operate fire extinguishers
- GS14.** analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently
- GS15.** document and report any health and safety related incidents/ accidents
- GS16.** read and comprehend basic english to read manuals of operations
- GS17.** read all organizational and equipment related health and safety manuals and documents
- GS18.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS19.** give clear instructions to co-workers, subordinates and other personnel
- GS20.** use correct technical terms while interacting with supervisor
- GS21.** make an appropriate timely decision in responding to emergencies/accidents in line with organizational/ worksite guidelines

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- GS22.** use correct ppe and other safety gear while at the worksite
- GS23.** work with supervisors/ team mates to carry out work related tasks
- GS24.** plan work according to the required schedule and location
- GS25.** build and maintain positive and effective relationships with colleagues and customers
- GS26.** seek appropriate assistance from other sources to resolve problems
- GS27.** assess the intensity of the fire accident and operate fire extinguishers
- GS28.** analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Worksite health and safety</i>	6	24	-	-
PC1. comply with safety, health, security and environment related regulations/ guidelines at the work site	-	2	-	-
PC2. use personal protective equipment (ppe) and other safety gear such as seat belt, body protection, respiratory protection, eye protection, ear protection and hand protection	1	3	-	-
PC3. follow safety measures during operations to ensure that the health and safety of self or others (including members of the public) is not at risk	1	3	-	-
PC4. carry out operations as per the manufacturers and worksite related health and safety guidelines	1	2	-	-
PC5. handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines	1	3	-	-
PC6. follow safety regulations and procedures with regard to worksite hazards and risks	1	2	-	-
PC7. operate various grades of fire extinguishers, as applicable	-	3	-	-
PC8. support in administering basic first aid and report to concerned team members, as required, in case of an accident	1	3	-	-
PC9. respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility	-	3	-	-
NOS Total	6	24	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N7601
NOS Name	Comply with worksite health and safety guidelines
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	31/03/2015
Next Review Date	31/03/2017
NSQC Clearance Date	18/06/2015

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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.

Recommended Pass % : 70

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
IES/N0113.Carry out pre-operation checks on wheel loader	7	39	-	-	46	27
IES/N0114.Operate a wheel loader	6	54	-	-	60	35
IES/N0115.Carry out maintenance and troubleshooting on the wheel loader	6	28	-	-	34	20

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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
IES/N7601. Comply with worksite health and safety guidelines	6	24	-	-	30	18
Total	25	145	-	-	170	100

Acronyms

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

Qualification Pack

Glossary

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

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