



# Backhoe Loader

## Junior Backhoe Operator

QP Code: IES/Q0102

NSQF Level: 3

Infrastructure Equipment Skill Council || Infrastructure Equipment Skill Council, Avik Royale-First Floor  
(Next of Vijaya Bank), No.6, 50 feet Main Road, Avalahalli Extension, Girinagar  
Bengaluru 560026

## Qualification Pack

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## Qualification Pack

### IES/Q0102: Junior Backhoe Operator

#### Brief Job Description

A junior backhoe operator assists the operator in driving and controlling the backhoe operations; safely and efficiently. He assists the operator in backhoe operations and is responsible for conducting pre check operations and regular machine maintenance.

#### Personal Attributes

The job requires the individual to be extremely diligent and careful and have good hand eye coordination. Hard work and strong work ethics, courteous behavior 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/N0104: Assist in Carrying out pre checks of backhoe loader](#)
2. [IES/N0105: Assist in backhoe operations](#)
3. [IES/N0106: Assist in regular maintenance of the backhoe loader](#)
4. [IES/N7601: Comply with worksite health and safety guidelines](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Infrastructure Equipment
<b>Sub-Sector</b>	Equipment Operations
<b>Occupation</b>	Operator
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2004/NIL
<b>Minimum Educational Qualification &amp; Experience</b>	8th Class
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years

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<b>Last Reviewed On</b>	31/03/2015
<b>Next Review Date</b>	30/06/2020
<b>NSQC Approval Date</b>	18/06/2015
<b>Version</b>	1.0

## Qualification Pack

### IES/N0104: Assist in Carrying out pre checks of backhoe loader

#### Description

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

#### Scope

This unit/task covers the following: Assist in conducting pre-operation checks Assist in maintaining documentation and records

#### Elements and Performance Criteria

##### *Assist in conducting 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.** assist in inspecting the boom and the stick for dents and cracked welds
- PC3.** assist in inspecting all ground engaging tools to ensure stability
- PC4.** check that oil levels of engine, transmission, radiant coolant and brake are as per manufacturers indicators
- PC5.** assist in checking differential and hydraulic oil levels
- PC6.** assist in checking that oil levels of engine, transmission, radiant coolant and brake are as per manufacturers indicators
- PC7.** check fan belt tension, electrolyte level and terminal tightness
- PC8.** assist in conduct visual inspection to check the various controls, gauges, warning lamp and other safety devices
- PC9.** check load chart is displayed in cabin
- PC10.** clean air filter dust bowls and check the gasket and inner filter
- PC11.** drain water and sediment from the fuel tank
- PC12.** top up coolant and oil in engine, transmission, etc. if necessary, in consultation with operator, as per manufacturers indicators
- PC13.** grease all greasing pins and pivots points well
- PC14.** examine the compressor unit and all fittings and air lines
- PC15.** check clearance of the drawbar ball and socket, look for excessive freeplay, and adjust if necessary
- PC16.** check that the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)
- PC17.** keep footplates and steps clean and free from mud, dirt and oil
- PC18.** walk completely around the backhoe loader to check that no one is under or on the machine before operating
- PC19.** get the log book of activities performed approved by the operator
- PC20.** assist in maintaining logbook to record all activities performed before starting the backhoe loader

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**PC21.** report defects precisely to the operator if beyond scope of role

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organizations procedures and guidelines related to backhoe loader operations
- KU2.** the performance standards & procedures followed in the company
- KU3.** reporting structure in the company
- KU4.** escalation matrix for reporting unresolved problems
- KU5.** timeframe in which the complaint/problem should be resolved
- KU6.** work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process
- KU7.** location of tools
- KU8.** contact person in case of queries on procedure or products
- KU9.** location and process for storage and disposal of waste material
- KU10.** safety policy of the company
- KU11.** responsibilities of the assigned job role
- KU12.** different types of backhoes and their use and function
- KU13.** working of engine, transmission, their use and function
- KU14.** principles of friction
- KU15.** steering mechanisms and correct way of steering on slopes
- KU16.** common types of signals and warning indicators
- KU17.** significance of greasing and oiling parts of a backhoe loader that need routine lubrication
- KU18.** procedure of filling diesel, coolant in the machine
- KU19.** method of greasing and lubrication
- KU20.** method to identify the grade and quality of oil to be used
- KU21.** instrument panel, their location and operation
- KU22.** the various types of hand signals used on the site
- KU23.** controls, levers and switches in order to operate the backhoe loader properly
- KU24.** optimal working condition of compactor components
- KU25.** optimal engine oil pressure, radiator coolant temperature
- KU26.** visual checks to identify damage, defects, cracks or leaks beforehand

### 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

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- GS4.** interact effectively with operators in order to clarify instructions and other issues
- GS5.** use correct technical terms while interacting with operator and other personnel
- GS6.** decide when to conduct maintenance checks
- GS7.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- GS8.** plan work according to the required schedule and location
- GS9.** plan for cleaning and lubricating the backhoe loader every day
- GS10.** provide service of the highest order to ensure customer satisfaction
- GS11.** report problems that you cannot resolve to appropriate authority
- GS12.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS13.** identify 'cause and effect' relations in own area of work
- GS14.** apply balanced judgment to different situations
- GS15.** record any deviations/ incidents as per prescribed norms
- GS16.** read and comprehend basic english to read manuals of operations
- GS17.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS18.** interact effectively with operators in order to clarify instructions and other issues
- GS19.** use correct technical terms while interacting with operator and other personnel
- GS20.** decide when to conduct maintenance checks
- GS21.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- GS22.** plan work according to the required schedule and location
- GS23.** plan for cleaning and lubricating the backhoe loader every day
- GS24.** provide service of the highest order to ensure customer satisfaction
- GS25.** report problems that you cannot resolve to appropriate authority
- GS26.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS27.** identify 'cause and effect' relations in own area of work
- GS28.** apply balanced judgment to different situations

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in conducting pre operation checks</i>	<b>6</b>	<b>49</b>	-	-
<b>PC1.</b> visually inspect the body components for cracks and bearing wear	-	3	-	-
<b>PC2.</b> assist in inspecting the boom and the stick for dents and cracked welds	-	3	-	-
<b>PC3.</b> assist in inspecting all ground engaging tools to ensure stability	1	3	-	-
<b>PC4.</b> check that oil levels of engine, transmission, radiant coolant and brake are as per manufacturers indicators	1	3	-	-
<b>PC5.</b> assist in checking differential and hydraulic oil levels	-	3	-	-
<b>PC6.</b> assist in checking that oil levels of engine, transmission, radiant coolant and brake are as per manufacturers indicators	1	3	-	-
<b>PC7.</b> check fan belt tension, electrolyte level and terminal tightness	-	3	-	-
<b>PC8.</b> assist in conduct visual inspection to check the various controls, gauges, warning lamp and other safety devices	-	3	-	-
<b>PC9.</b> check load chart is displayed in cabin	-	1	-	-
<b>PC10.</b> clean air filter dust bowls and check the gasket and inner filter	-	3	-	-
<b>PC11.</b> drain water and sediment from the fuel tank	-	3	-	-
<b>PC12.</b> top up coolant and oil in engine, transmission, etc. if necessary, in consultation with operator, as per manufacturers indicators	1	1	-	-
<b>PC13.</b> grease all greasing pins and pivots points well	-	3	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> examine the compressor unit and all fittings and air lines	-	3	-	-
<b>PC15.</b> check clearance of the drawbar ball and socket, look for excessive freeplay, and adjust if necessary	-	1	-	-
<b>PC16.</b> check that the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)	1	3	-	-
<b>PC17.</b> keep footplates and steps clean and free from mud, dirt and oil	1	1	-	-
<b>PC18.</b> walk completely around the backhoe loader to check that no one is under or on the machine before operating	-	3	-	-
<b>PC19.</b> get the log book of activities performed approved by the operator	-	1	-	-
<b>PC20.</b> assist in maintaining logbook to record all activities performed before starting the backhoe loader	-	1	-	-
<b>PC21.</b> report defects precisely to the operator if beyond scope of role	-	1	-	-
<b>NOS Total</b>	<b>6</b>	<b>49</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	IES/N0104
<b>NOS Name</b>	Assist in Carrying out pre checks of backhoe loader
<b>Sector</b>	Infrastructure Equipment
<b>Sub-Sector</b>	Equipment Operations
<b>Occupation</b>	Operator
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2015
<b>Next Review Date</b>	31/03/2017
<b>NSQC Clearance Date</b>	18/06/2015

## Qualification Pack

### IES/N0105: Assist in backhoe operations

#### Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting in backhoe operations.

#### Scope

This unit/task covers the following:

- Assist in earth digging
- Assist in load lifting and dumping

#### Elements and Performance Criteria

##### *Assist in earth digging*

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

- PC1.** assist in inspection of the worksite to identify and loose soil, hidden deep trenches or marshy patches where a compactor could get stuck
- PC2.** carry out and assist in all pre-use and running checks
- PC3.** assist in determining speed and direction of machine, as per the specified function
- PC4.** assist in ascertaining the right location to begin operations
- PC5.** continuously monitor hazards and risks , and ensure safety of self, other personnel, plant and equipment
- PC6.** remove the obstacles if any during the digging process
- PC7.** assist in modifying the operating technique to meet changing work conditions
- PC8.** assist in using stabilizers to ensure the machinery is completely immobile while digging

##### *Assist in load lifting and dumping*

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

- PC9.** assist the operator to select, attach and apply slings and lifting gear in accordance with safe working load requirements
- PC10.** assist in positioning and locating machinery to ensure stability to effectively shift materials according to job specifications
- PC11.** assist the operator in shifting load safely and effectively
- PC12.** assist in moving load using hand/audible/communication signals
- PC13.** assist in removing attachments after use
- PC14.** clean and store removed attachments

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** responsibilities of the assigned job role

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- 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
- 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.** different types of backhoe loaders and their specific use
- KU18.** working of engine, transmission, their use and function
- KU19.** principles of friction
- KU20.** steering mechanisms and correct way of steering on slopes
- KU21.** significance of greasing and oiling parts of the compactor
- KU22.** instruments panel, their location and operation
- KU23.** controls, levers and switches in order to operate the compactor properly
- KU24.** optimal working condition of backhoe loaders
- KU25.** optimal engine oil pressure, radiator coolant temperature
- KU26.** significance of stabilizers while digging
- KU27.** the different attachments, their usage and functions (grapppler fork, buckets, side shift forks, sweepers, crane hooks, rock breaker etc.)
- KU28.** visual checks to identify damage, defects or leaks beforehand
- KU29.** general safety rules for operating a compactor
- KU30.** all signage, safety signs and other emergency signals
- KU31.** correct maintenance procedures for backhoe loader
- KU32.** the procedure and requirement of using the emergency 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 and interpret decals/indicators in the machine/ operator's manual

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- 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.** interact effectively with operators in order to clarify instructions and other issues
- GS6.** use correct technical terms while interacting with operator and other personnel
- GS7.** assess for any damage/faulty component in the backhoe loader and report to the operator
- GS8.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- GS9.** plan work according to the required schedule and location
- GS10.** provide service of the highest order to ensure customer satisfaction
- GS11.** report problems that you cannot resolve to appropriate authority
- GS12.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS13.** evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
- GS14.** assess the situation and support the operator with navigation during driving operations
- GS15.** apply balanced judgment to different situations
- GS16.** record any deviations/ incidents as per prescribed norms
- GS17.** read and comprehend basic english to read and interpret decals/indicators in the machine/ operator's manual
- GS18.** interpret stakes and signage on the road and during worksite operations
- GS19.** read instructions, guidelines/ procedures/ rules related to the worksite and equipment operations
- GS20.** interact effectively with operators in order to clarify instructions and other issues
- GS21.** use correct technical terms while interacting with operator and other personnel
- GS22.** assess for any damage/faulty component in the backhoe loader and report to the operator
- GS23.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- GS24.** plan work according to the required schedule and location
- GS25.** provide service of the highest order to ensure customer satisfaction
- GS26.** report problems that you cannot resolve to appropriate authority
- GS27.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS28.** evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
- GS29.** assess the situation and support the operator with navigation during driving operations
- GS30.** apply balanced judgment to different situations

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in earth digging</i>	<b>2</b>	<b>20</b>	-	-
<b>PC1.</b> assist in inspection of the worksite to identify and loose soil, hidden deep trenches or marshy patches where a compactor could get stuck	-	3	-	-
<b>PC2.</b> carry out and assist in all pre-use and running checks	-	3	-	-
<b>PC3.</b> assist in determining speed and direction of machine, as per the specified function	1	3	-	-
<b>PC4.</b> assist in ascertaining the right location to begin operations	-	3	-	-
<b>PC5.</b> continuously monitor hazards and risks , and ensure safety of self, other personnel, plant and equipment	1	3	-	-
<b>PC6.</b> remove the obstacles if any during the digging process	-	3	-	-
<b>PC7.</b> assist in modifying the operating technique to meet changing work conditions	-	1	-	-
<b>PC8.</b> assist in using stabilizers to ensure the machinery is completely immobile while digging	-	1	-	-
<i>Assist in load lifting and dumping</i>	<b>4</b>	<b>18</b>	-	-
<b>PC9.</b> assist the operator to select, attach and apply slings and lifting gear in accordance with safe working load requirements	1	3	-	-
<b>PC10.</b> assist in positioning and locating machinery to ensure stability to effectively shift materials according to job specifications	1	3	-	-
<b>PC11.</b> assist the operator in shifting load safely and effectively	-	3	-	-
<b>PC12.</b> assist in moving load using hand/audible/communication signals	1	3	-	-
<b>PC13.</b> assist in removing attachments after use	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. clean and store removed attachments	-	3	-	-
<b>NOS Total</b>	<b>6</b>	<b>38</b>	<b>-</b>	<b>-</b>

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	IES/N0105
<b>NOS Name</b>	Assist in backhoe operations
<b>Sector</b>	Infrastructure Equipment
<b>Sub-Sector</b>	Equipment Operations
<b>Occupation</b>	Operator
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2015
<b>Next Review Date</b>	31/03/2017
<b>NSQC Clearance Date</b>	18/06/2015



## Qualification Pack

### IES/N0106: Assist in regular maintenance of the backhoe loader

#### Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting the operator in routine maintenance of the backhoe loader.

#### Scope

This unit/task covers the following:

- Assist in routine maintenance
- Documentation and Reporting

#### Elements and Performance Criteria

##### *Assist in routine maintenance*

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

- PC1.** clean air filter dust bowls at regular intervals
- PC2.** clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals
- PC3.** replenish coolants, lubricants and fluids everyday
- PC4.** grease all greasing pins and pivot points everyday
- PC5.** check battery levels and condition of the terminals and carry out minor adjustments if required
- PC6.** check and maintain the tyre rims, air pressure, wheel nits and treads as per manufacturer's indicators
- PC7.** 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
- PC8.** ensure that no maintenance task on the engine is performed when running or still hot
- PC9.** assess when the problem is beyond his competence and report the problem to the operator
- PC10.** handle and dispose waste based on environmental guidelines at the work place

##### *Documentation and Reporting*

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

- PC11.** follow reporting procedures as laid down by the employer
- PC12.** report defects precisely to the operator if beyond scope of his role
- PC13.** report defects precisely to the operator and 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

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- 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 compactor properly
- KU18.** basic physics and mechanics involved in various functions of the backhoe 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 and interpret decals/indicators in the machine/operator's manual
- GS3.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS4.** interact effectively with operators in order to clarify instructions and other issues
- GS5.** use correct technical terms while interacting with operator and other personee
- GS6.** decide when to conduct maintenance checks
- GS7.** evaluate the decision and conduct basic trouble shooting
- GS8.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- 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.** report problems that you cannot resolve to appropriate authority

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- GS13.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS14.** evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
- GS15.** check for damages and diagnose common problems in the backhoe loader and report to appropriate authority
- GS16.** apply balanced judgment to different situations
- GS17.** record any deviations/ incidents as per prescribed norms
- GS18.** read and comprehend basic english to read and interpret decals/indicators in the machine/operator's manual
- GS19.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- GS20.** interact effectively with operators in order to clarify instructions and other issues
- GS21.** use correct technical terms while interacting with operator and other personee
- GS22.** decide when to conduct maintenance checks
- GS23.** evaluate the decision and conduct basic trouble shooting
- GS24.** carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
- GS25.** plan work according to the required schedule and location
- GS26.** plan for regular maintenance on a daily basis before machine operations
- GS27.** provide service of the highest order to ensure customer satisfaction
- GS28.** report problems that you cannot resolve to appropriate authority
- GS29.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS30.** evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
- GS31.** check for damages and diagnose common problems in the backhoe loader and report to appropriate authority
- GS32.** apply balanced judgment to different situations

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in routine maintenance</i>	<b>7</b>	<b>20</b>	-	-
<b>PC1.</b> clean air filter dust bowls at regular intervals	1	3	-	-
<b>PC2.</b> clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals	1	3	-	-
<b>PC3.</b> replenish coolants, lubricants and fluids everyday	-	3	-	-
<b>PC4.</b> grease all greasing pins and pivot points everyday	1	3	-	-
<b>PC5.</b> check battery levels and condition of the terminals and carry out minor adjustments if required	1	1	-	-
<b>PC6.</b> check and maintain the tyre rims, air pressure, wheel nits and treads as per manufacturer's indicators	1	1	-	-
<b>PC7.</b> 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	-	-
<b>PC8.</b> ensure that no maintenance task on the engine is performed when running or still hot	1	1	-	-
<b>PC9.</b> assess when the problem is beyond his competence and report the problem to the operator	-	1	-	-
<b>PC10.</b> handle and dispose waste based on environmental guidelines at the work place	-	1	-	-
<i>Documentation and Reporting</i>	<b>1</b>	<b>3</b>	-	-
<b>PC11.</b> follow reporting procedures as laid down by the employer	1	1	-	-
<b>PC12.</b> report defects precisely to the operator if beyond scope of his role	-	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> report defects precisely to the operator and supervisor if beyond scope of his role	-	1	-	-
<b>NOS Total</b>	<b>8</b>	<b>23</b>	-	-

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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	IES/N0106
<b>NOS Name</b>	Assist in regular maintenance of the backhoe loader
<b>Sector</b>	Infrastructure Equipment
<b>Sub-Sector</b>	Equipment Operations
<b>Occupation</b>	Operator
<b>NSQF Level</b>	3
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/03/2015
<b>Next Review Date</b>	31/03/2017
<b>NSQC Clearance Date</b>	18/06/2015

## 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, the 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

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Worksite health and safety</i>	<b>6</b>	<b>24</b>	-	-
<b>PC1.</b> comply with safety, health, security and environment related regulations/ guidelines at the work site	-	2	-	-
<b>PC2.</b> 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	-	-
<b>PC3.</b> 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	-	-
<b>PC4.</b> carry out operations as per the manufacturers and worksite related health and safety guidelines	1	2	-	-
<b>PC5.</b> handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines	1	3	-	-
<b>PC6.</b> follow safety regulations and procedures with regard to worksite hazards and risks	1	2	-	-
<b>PC7.</b> operate various grades of fire extinguishers, as applicable	-	3	-	-
<b>PC8.</b> support in administering basic first aid and report to concerned team members, as required, in case of an accident	1	3	-	-
<b>PC9.</b> respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility	-	3	-	-
<b>NOS Total</b>	<b>6</b>	<b>24</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

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

## 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/N0104.Assist in Carrying out pre checks of backhoe loader	6	49	-	-	55	34
IES/N0105.Assist in backhoe operations	6	38	-	-	44	27
IES/N0106.Assist in regular maintenance of the backhoe loader	8	23	-	-	31	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	19
<b>Total</b>	<b>26</b>	<b>134</b>	<b>-</b>	<b>-</b>	<b>160</b>	<b>100</b>

## Qualification Pack

### Acronyms

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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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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<b>Knowledge and Understanding (KU)</b>	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.
<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.