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Concrete Pump Operator

QP Code: IES/Q0107

NSQF Level: 4

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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IES/Q0107: Concrete Pump Operator

Brief Job Description

A concrete pump operator controls, or operates powerdriven, stationary or portable pumps and manifold systems to transfer concrete or slurries to and from various vessels and pipes to the required location.

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/N0119: Carry out pre-operations checks on a concrete pump](#)
2. [IES/N0120: Operate Concrete Pump](#)
3. [IES/N0121: Perform routine maintenance and troubleshooting of a concrete pump](#)
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 concrete pump operations
Minimum Level of Education for Training in School	

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Pre-Requisite License or Training	Certification Training in concrete pump operations preferred
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

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IES/N0119: Carry out pre-operations checks on a concrete pump

Description

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

Scope

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

Elements and Performance Criteria

Pre-Operation Checks To be competent, the user/individual on the job must be able to: P

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

- PC1.** adhere to time limits given by supervisor
- PC2.** visually inspect the body and components for cracks, leakages, and ensure all switches are in neutral.
- PC3.** check that oil levels of engine, transmission, radiant coolant and brake areas per manufacturers indicators
- PC4.** check differential and hydraulic oil levels
- PC5.** check water level and contamination in the water tank
- PC6.** conduct visual inspection to check the various controls, gauges, warning lamp, emergency button and other safety devices
- PC7.** check transfer tube/rock valve/gate valve/s tube for wear and tear and adjust sealing gap if required
- PC8.** visually inspect the body and components for cracks, leakages, and ensure all switches are in neutral.
- PC9.** check and set out all necessary work signs as required
- PC10.** clean air filter dust bowls and check the gasket and inner filter
- PC11.** top up coolant and oil in engine, transmission, etc. if necessary as per manufacturers indicators
- PC12.** inspect all greasing points to ensure that all greasing pins and pivots points are well greased.
- PC13.** examine the compressor unit (if available) and all fittings
- PC14.** walk completely around the concrete pump checking that no one is under or on the machine before operating

Documentation and Reporting

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

- PC15.** maintain a checking/maintenance logbook to record all activities performed before starting the concrete pump
- PC16.** 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:

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- KU1.** the organizations procedures and guidelines related to concrete pump operations
- KU2.** working of engine, transmission, hydraulic system, their use and function
- KU3.** common hazards in the work area and workplace procedures to deal with them
- KU4.** safety policy of the company
- KU5.** procedure of filling diesel, hydraulic oil, coolant etc., in the machine
- 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 disposal of waste material
- KU16.** safety policy of the company
- KU17.** different types of concrete pumps and their use and function
- KU18.** working of engine, transmission, their use and function
- KU19.** principles of friction
- KU20.** significance of greasing and oiling parts of a concrete pump that need routine lubrication
- KU21.** procedure of filling diesel, coolant in the machine
- KU22.** method of greasing and lubrication
- KU23.** method to identify the grade and quality of oil to be used
- KU24.** instrument panel, their location and operation
- KU25.** the various types of hand signals used on the site
- KU26.** controls, levers and switches in order to operate the concrete pump properly
- KU27.** optimal working condition of concrete pump components
- KU28.** optimal engine oil pressure, radiator coolant temperature
- KU29.** 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
- GS4.** give clear instructions to co-workers, subordinates and other personnel

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- 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 concrete pump 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>Pre-Operation Checks To be competent, the user/individual on the job must be able to: P</i>	7	36	-	-
PC1. adhere to time limits given by supervisor	-	2	-	-
PC2. visually inspect the body and components for cracks, leakages, and ensure all switches are in neutral.	-	2	-	-
PC3. check that oil levels of engine, transmission, radiator coolant and brake areas per manufacturer's indicators	1	3	-	-
PC4. check differential and hydraulic oil levels	-	3	-	-
PC5. check water level and contamination in the water tank	1	3	-	-
PC6. conduct visual inspection to check the various controls, gauges, warning lamp, emergency button and other safety devices	1	3	-	-
PC7. check transfer tube/rock valve/gate valve/tube for wear and tear and adjust sealing gap if required	-	3	-	-
PC8. visually inspect the body and components for cracks, leakages, and ensure all switches are in neutral.	1	3	-	-
PC9. check and set out all necessary work signs as required	1	3	-	-
PC10. clean air filter dust bowls and check the gasket and inner filter	-	3	-	-
PC11. top up coolant and oil in engine, transmission, etc. if necessary as per manufacturer's indicators	-	2	-	-
PC12. inspect all greasing points to ensure that all greasing pins and pivots points are well greased.	1	2	-	-
PC13. examine the compressor unit (if available) and all fittings	-	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. walk completely around the concrete pump checking that no one is under or on the machine before operating	1	2	-	-
<i>Documentation and Reporting</i>	-	2	-	-
PC15. maintain a checking/maintenance logbook to record all activities performed before starting the concrete pump	-	1	-	-
PC16. report defects precisely to the supervisor if beyond scope of his role	-	1	-	-
NOS Total	7	38	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0119
NOS Name	Carry out pre-operations checks on a concrete pump
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/N0120: Operate Concrete Pump

Description

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

Scope

This unit/task covers the following:

- Pumping Operation

Elements and Performance Criteria

Pumping Operation

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

- PC1.** plan and organize the job according to given instructions
- PC2.** carry out all pre- use and running checks
- PC3.** ensure the integrity of pipelines that are connected to pumps and truck mixers prior to concrete transfer
- PC4.** receive verbal orders or over radio to determine amount of concrete to be pumped
- PC5.** appropriately regulate the concrete flow to match the requirement of the project
- PC6.** inspect the concrete mix to ensure that the concrete is pumpable
- PC7.** communicate with other workers and supervisors using signals, radios, or telephones, to start and stop flow of concrete.
- PC8.** inspect equipment to ensure that tank levels, temperatures, chemical amounts, and pressures are at specified levels
- PC9.** report any abnormalities if necessary.
- PC10.** record operating data such as products and quantities pumped, stocks used, gauging results, and operating times.
- PC11.** clean, lubricate, and repair pumps and vessels, using hand tools and equipment as per industry standard
- PC12.** check pressure levels of concrete is as per requirement, by using calibrated pressure gauges or by reading mercury gauges and tank charts
- PC13.** check levels of concrete is as per requirement, by using calibrated rods or by reading mercury gauges and tank charts
- PC14.** check appropriate consistency of the concrete solution for smooth flow
- PC15.** check appropriate consistence of the concrete solution for smooth flow
- PC16.** carry out reverse flow incase required to clear the pump of concrete
- PC17.** use the emergency stop button to disable all power to the concrete pump in case of a crisis, as per operator manual

Knowledge and Understanding (KU)

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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.** risk and impact of not following defined procedures/ work instructions
- KU5.** the performance standards & procedures followed in the company
- KU6.** reporting structure in the company
- KU7.** escalation matrix for reporting unresolved problems
- KU8.** timeframe in which the complaint/problem should be resolved
- KU9.** implications of delays in process to the company
- KU10.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- KU11.** work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process
- KU12.** location of tools
- KU13.** contact person in case of queries on procedure or products
- KU14.** location and process for storage and disposal of waste material
- KU15.** working of engine, transmission, their use and function
- KU16.** the interconnections and capacities of pipelines, valve manifolds, pumps, and tankage.
- KU17.** the procedure of turning on and off the concrete pump
- KU18.** the functioning of a transit mixer
- KU19.** the properties of concrete
- KU20.** the working of a transit mixer and a concrete pump
- KU21.** the method of reversing the flow of the pump when required
- KU22.** the procedure of cleaning the pump and valve
- KU23.** the pressure and flow of concrete required for different heights
- KU24.** instruments panel, their significance, location and operation
- KU25.** controls, levers and switches in order to operate the concrete pump properly
- KU26.** optimal working condition of concrete pump
- KU27.** optimal engine oil pressure, radiator coolant temperature
- KU28.** general safety rules for operating a concrete pump
- KU29.** all safety signs and other emergency signals
- KU30.** the procedure and requirement of using the emergency button
- KU31.** various methods of testing the concrete namely slump test, vebe test, compression test etc
- KU32.** basic principles of hydraulics
- KU33.** the hydraulic circuit and components using hydraulic symbols
- KU34.** best practices in pipe laying
- KU35.** the location and use of the emergency stop button

Generic Skills (GS)

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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 compactor 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
- 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>Pumping Operation</i>	6	49	-	-
PC1. plan and organize the job according to given instructions	-	3	-	-
PC2. carry out all pre- use and running checks	-	3	-	-
PC3. ensure the integrity of pipelines that are connected to pumps and truck mixers prior to concrete transfer	-	3	-	-
PC4. receive verbal orders or over radio to determine amount of concrete to be pumped	1	3	-	-
PC5. appropriately regulate the concrete flow to match the requirement of the project	-	3	-	-
PC6. inspect the concrete mix to ensure that the concrete is pumpable	-	3	-	-
PC7. communicate with other workers and supervisors using signals, radios, or telephones, to start and stop flow of concrete.	1	3	-	-
PC8. inspect equipment to ensure that tank levels, temperatures, chemical amounts, and pressures are at specified levels	1	3	-	-
PC9. report any abnormalities if necessary.	-	3	-	-
PC10. record operating data such as products and quantities pumped, stocks used, gauging results, and operating times.	1	3	-	-
PC11. clean, lubricate, and repair pumps and vessels, using hand tools and equipment as per industry standard	-	3	-	-
PC12. check pressure levels of concrete is as per requirement, by using calibrated pressure gauges or by reading mercury gauges and tank charts	1	3	-	-
PC13. check levels of concrete is as per requirement, by using calibrated rods or by reading mercury gauges and tank charts	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. check appropriate consistency of the concrete solution for smooth flow	-	3	-	-
PC15. check appropriate consistence of the concrete solution for smooth flow	-	1	-	-
PC16. carry out reverse flow incase required to clear the pump of concrete	-	3	-	-
PC17. use the emergency stop button to disable all power to the concrete pump in case of a crisis, as per operator manual	-	3	-	-
NOS Total	6	49	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0120
NOS Name	Operate Concrete Pump
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/N0121: Perform routine maintenance and troubleshooting of a concrete pump

Description

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

Scope

This unit/task covers the following:

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

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 the pump and valves as per standard operating procedures
- 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 tyre rims, air pressure, wheel nuts and treads as per manufacturers indications

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 no maintenance task on any part of the equipment is performed when running or still hot
- PC11.** assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel
- PC12.** diagnose the problem
- PC13.** 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:

- PC14.** follow reporting procedures as laid down by the employe
- PC15.** complete all documentation in the prescribed standards in a timely manner

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PC16. report and escalate problems/ incidents as required in a timely manner

PC17. 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. risk and impact of not following defined procedures/ work instructions

KU5. the performance standards & procedures followed in the company

KU6. reporting structure in the company

KU7. escalation matrix for reporting unresolved problems

KU8. timeframe in which the complaint/problem should be resolved

KU9. implications of delays in process to the company

KU10. cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents

KU11. work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process

KU12. location of tools

KU13. contact person in case of queries on procedure or products

KU14. location and process for storage and disposal of waste material

KU15. controls, levers and switches needed to operate the concrete pump properly

KU16. basic physics and mechanics involved in various functions of the concrete pump

KU17. common defects and general causes of breakdown

KU18. response to emergency situations

KU19. the optimal levels of control indicators e.g. fuel gauge, engine oil pressure, temperature, hydraulic pressure and oil levels

KU20. possible sources of any unusual sound emanating from the engine

KU21. methods to avoid the choking in concrete pump

KU22. scheduled maintenance of concrete pump using maintenance charts

KU23. best practices in pipe cleaning methods

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.** 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.** 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 concrete pump 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	16	-	-
PC1. assess the right service schedule by tracking machine operating hours	1	3	-	-
PC2. clean air filter dust bowls at regular intervals	-	2	-	-
PC3. clean the pump and valves as per standard operating procedures	-	2	-	-
PC4. replenish coolants, lubricants and fluids everyday	1	2	-	-
PC5. grease all greasing pins and pivot points everyday	-	2	-	-
PC6. check battery levels and condition of the terminals and carry out minor adjustments if required	-	2	-	-
PC7. check and maintain the tyre rims, air pressure, wheel nuts and treads as per manufacturers indications	-	3	-	-
<i>Basic diagnostics and troubleshooting</i>	3	14	-	-
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	-	3	-	-
PC9. complete timely and legibly daily/ weekly maintenance sheets as provided by the company	-	3	-	-
PC10. ensure that no maintenance task on any part of the equipment is performed when running or still hot	1	2	-	-
PC11. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	1	2	-	-
PC12. diagnose the problem	-	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. handle and dispose waste based on environmental guidelines at the work place	1	3	-	-
<i>Documentation and Reporting</i>	1	9	-	-
PC14. follow reporting procedures as laid down by the employe	1	2	-	-
PC15. complete all documentation in the prescribed standards in a timely manner	-	3	-	-
PC16. report and escalate problems/ incidents as required in a timely manner	-	2	-	-
PC17. report defects precisely to the supervisor if beyond scope of his role	-	2	-	-
NOS Total	6	39	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0121
NOS Name	Perform routine maintenance and troubleshooting of a concrete pump
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/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

Qualification Pack

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	-	-

Qualification Pack

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

Qualification Pack

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/N0119.Carry out pre-operations checks on a concrete pump	7	38	-	-	45	26
IES/N0120.Operate Concrete Pump	6	49	-	-	55	31
IES/N0121.Perform routine maintenance and troubleshooting of a concrete pump	6	39	-	-	45	26

Qualification Pack

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	17
Total	25	150	-	-	175	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.

Qualification Pack

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.