







# **Compactor Operator**

QP Code: IES/Q0106

Version: 2.0

NSQF Level: 4

Infrastructure Equipment Skill Council || Avik Royale - First Floor (Next of Vijaya Bank), No.6, 50 feet

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## **IES/Q0106: Compactor Operator**

### **Brief Job Description**

A compactor operator drives and controls the compaction operations. The job requirements are to distribute and compress to give a finished surface to cooling asphalt. Compactor operators may also be required to compact earth fills, sub grades and flexible bases.

#### **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 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. <u>IES/N0116</u>: Carry out pre-operation checks on a compactor
- 2. IES/N0117: Operate a Compactor
- 3. <u>IES/N0118</u>: Perform routine maintenance and troubleshooting of a compactor
- 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-2015/ 8342.2101







Minimum Educational Qualification & Experience	8th Class (OR • 10th Class Pass + ITI (1year after Class 10th) with 1 year of relevant experience • OR • 10th Class Pass + ITI (2years after Class 10th) • OR • 10th Class Pass and pursuing continuous regular schooling • OR • 3 Year Diploma (After 10th)12th Class Pass with 6 months of relevant experience • OR • Previous relevant Qualification of NSQF Level 3 with 2 years of relevant experience) with 2 Years of experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Light Commercial Vehicle Driving License (LCV) is preferred
Minimum Job Entry Age	18 Years
Last Reviewed On	26/05/2022
Next Review Date	26/05/2025
NSQC Approval Date	26/05/2022
Version	2.0
Reference code on NQR	2022/IS/IESC/05895
NQR Version	1.0







# **IES/N0116:** Carry out pre-operation checks on a compactor

## **Description**

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

#### Scope

The scope covers the following:

• 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:

- **PC1.** adhere to time limits given by supervisor
- **PC2.** ensure that visual inspections of the body components for cracks are performed
- **PC3.** check the oil levels in the engine, transmission, radiator coolant and brakes to ensure they are within the manufacturer's specifications
- **PC4.** check the levels of differential and hydraulic oil
- **PC5.** carry out inspections to ensure that the parking brake, main horn, reverse horn and headlights are in good working order
- **PC6.** check fan belt tension, electrolyte level and terminal tightness
- **PC7.** get a visual inspection to check the different controls, gauges, warning lights, and other safety devices
- **PC8.** examine and adjust the driving position, rear and side mirrors, and seat belts to your comfort level
- PC9. clean the dust bowls of the air filters and inspect the gasket and inner filter
- **PC10.** inspect the greasing points to ensure that all greasing pins and pivots points are well greased
- **PC11.** inspect the compressor, as well as every fittings and air lines
- PC12. keep footplates and steps clean and free from mud, dirt and oil
- **PC13.** before starting the compactor, go all the way around it to make sure no one is beneath or on it
- **PC14.** verify that the machine has all of the manufacturer's safety, maintenance, and operating labels

#### Documentation and Reporting

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

- **PC15.** keep inspection/maintenance logbook to keep track of all actions
- **PC16.** if a fault is found that is outside of the scope of the position, notify the operator immediately

## **Knowledge and Understanding (KU)**







The individual on the job needs to know and understand:

- **KU1.** the organizations procedures and guidelines related to compactor operations
- **KU2.** job-specific documentation, such as a daily maintenance checklist, an operation handbook, and a components manual, as well as their importance
- **KU3.** a list of typical occupational hazards and techniques for dealing with them
- **KU4.** safety policy of the company
- **KU5.** emergency organization of the specific work site
- **KU6.** the risks and consequences of not adhering to established processes and job instructions
- KU7. location of tools
- **KU8.** reporting structure in the company
- **KU9.** escalation matrix for reporting unresolved problems
- **KU10.** schedule for resolving the complaint/problem
- **KU11.** responsibilities of the assigned job role
- **KU12.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- **KU13.** work objective and review procedure with supervisor for obtaining/ providing performance comments
- KU14. location of tools
- **KU15.** contact person in case of queries on procedure or products
- **KU16.** the location and procedure for storing and disposing of waste
- **KU17.** different types of compactors and their applications and functions
- **KU18.** the operation of the engine and transmission, as well as its usage and purpose
- **KU19.** principles of friction
- **KU20.** steering mechanisms and correct way of steering on slopes
- **KU21.** the relevance of greasing and oiling compactor elements that require routine lubrication
- KU22. process for adding fuel and coolant to the machine
- KU23. method to identify the grade and quality of oil to be used
- **KU24.** the instrument panel, its placement, and its functionality
- **KU25.** the various types of hand signals used on the site
- **KU26.** controls, levers, and switches are required to effectively operate the compactor
- **KU27.** optimum operating condition of compactor components
- **KU28.** optimal engine oil pressure, radiator coolant temperature
- **KU29.** visual inspections are performed ahead of time to detect damage, flaws, cracks, or leaks
- **KU30.** the relevance of all the machine's safety and maintenance decals

#### **Generic Skills (GS)**

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

**GS1.** keep a record of any deviations or occurrences that do not conform to the specified standards







- **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.** when talking with your supervisorl, utilize the right technical words
- **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 backhoe loader every day
- **GS10.** deliver first-rate service to ensure client 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.** examine, evaluate, and apply knowledge acquired from observation, experience, logic, or communication in order to act efficiently







## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Pre-Operation Checks	11	46	_	-
PC1. adhere to time limits given by supervisor	1	3	-	-
<b>PC2.</b> ensure that visual inspections of the body components for cracks are performed	1	3	-	-
<b>PC3.</b> check the oil levels in the engine, transmission, radiator coolant and brakes to ensure they are within the manufacturer's specifications	1	4	-	-
<b>PC4.</b> check the levels of differential and hydraulic oil	1	3	-	-
<b>PC5.</b> carry out inspections to ensure that the parking brake, main horn, reverse horn and headlights are in good working order	1	3	-	-
<b>PC6.</b> check fan belt tension, electrolyte level and terminal tightness	-	4	-	-
<b>PC7.</b> get a visual inspection to check the different controls, gauges, warning lights, and other safety devices	1	4	-	-
<b>PC8.</b> examine and adjust the driving position, rear and side mirrors, and seat belts to your comfort level	1	3	-	-
<b>PC9.</b> clean the dust bowls of the air filters and inspect the gasket and inner filter	-	3	-	-
<b>PC10.</b> inspect the greasing points to ensure that all greasing pins and pivots points are well greased	1	4	-	-
<b>PC11.</b> inspect the compressor, as well as every fittings and air lines	1	3	-	-
PC12. keep footplates and steps clean and free from mud, dirt and oil	-	3	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> before starting the compactor, go all the way around it to make sure no one is beneath or on it	1	3	-	-
<b>PC14.</b> verify that the machine has all of the manufacturer's safety, maintenance, and operating labels	1	3	-	-
Documentation and Reporting	4	4	-	-
<b>PC15.</b> keep inspection/maintenance logbook to keep track of all actions	2	2	-	-
<b>PC16.</b> if a fault is found that is outside of the scope of the position, notify the operator immediately	2	2	-	-
NOS Total	15	50	-	-







# **National Occupational Standards (NOS) Parameters**

NOS Code	IES/N0116
NOS Name	Carry out pre-operation checks on a compactor
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022







## **IES/N0117: Operate a Compactor**

## **Description**

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

#### Scope

The scope covers the following:

- This unit/task covers the following:
- Compaction Operation

#### **Elements and Performance Criteria**

#### **Compaction 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.** examine the jobsite for loose soil, concealed deep ditches, or marshy spots where the backhoe might become trapped
- **PC3.** perform all pre-operation and on-the-job inspections
- **PC4.** ensure gear is in neutral position
- **PC5.** wear seatbelt and adjust seat position
- **PC6.** start the engine using the pushbutton switch and key switch
- **PC7.** when starting the engine in cold weather, utilize the priming pump and pre-heater
- **PC8.** operate tandem compactor in successive overlapping passes over surfaces to be compacted
- **PC9.** determine the asphalt temperature at which compaction is optimal
- **PC10.** ascertain that hot mix asphalt compaction is acceptable and in accordance with organization requirements
- **PC11.** ensure that the subgrade and asphalt are properly compacted and smooth
- **PC12.** determine the direction and speed of machine to ensure they are as per the compressibility of material under changing temperatures
- **PC13.** ensuring that no ridges emerge as a result of high pressure
- **PC14.** after completing operations, switch off ignition
- **PC15.** inspect the gear position after usage to confirm that the gear is in neutral position
- **PC16.** after using the equipment, leave it idle for few minutes
- **PC17.** in the event of a crisis, use the emergency stop button to turn off all power to the compactor as instructed in the operator's handbook

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:







- **KU1.** job specific documents like 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.** the risk and consequences of failing to follow clearly specified 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.** schedule for resolving the complaint/problem
- **KU10.** the consequences of process delays for the firm
- **KU11.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- **KU12.** work goal and review procedure with supervisor for obtaining/giving feedback on performance process
- KU13. location of tools
- KU14. clarify about the procedure from the supervisor
- **KU15.** location and procedure for waste storage and disposal
- **KU16.** different types of compactor and their applications
- KU17. introduction to the engine and transmission, as well as their use and purpose
- **KU18.** principles of friction
- **KU19.** the vibration system of the compactor
- **KU20.** steering techniques and the proper way to steer on a slope
- **KU21.** significance of greasing and lubricating parts of the compactor
- **KU22.** the instrument panel, its position and its functionality
- KU23. controls, levers and switches in order to operate the compactor properly
- **KU24.** the need of stabilizers when digging
- **KU25.** the various attachments, their uses, and functions (grappler fork, buckets, side shift forks, sweepers, crane hooks, rock breaker etc.)
- KU26. optimal engine oil pressure, radiator coolant temperature
- KU27. visual checks to identify damage, defects or leaks beforehand
- **KU28.** the position and operation of the emergency stop button
- **KU29.** basic safety measures while using a compactor
- KU30. all signs, warnings and other emergency signals

## **Generic Skills (GS)**

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

- **GS1.** keep a record of any deviations or occurrences that do not conform to the specified standards
- **GS2.** read and comprehend basic english to read manuals of operations
- **GS3.** understand stakes and signs on the road and on the job site







- **GS4.** read instructions, guidelines/procedures/rules related to the worksite and equipment operations
- **GS5.** when talking with your supervisor, utilize the right technical words
- **GS6.** assess for any damage/faulty component in the compactor and take action accordingly
- **GS7.** decide when to perform appropriate driving operations i e forward, reverse, 'u' turn, tight spot
- **GS8.** carry out job duties in accordance with the supervisor's directions and deadlines
- **GS9.** plan work according to the required schedule and location
- GS10. deliver first-class service to ensure client satisfaction
- **GS11.** identify immediate or temporary solutions to resolve mechanical issues
- **GS12.** judge when to seek assistance from supervisor
- **GS13.** identify possible ways to improve operational efficiency
- **GS14.** suggest methods to avoid accidents/errors while operating machine
- **GS15.** examine, evaluate and apply knowledge acquired from observation, experience, logic, or communication in order to act efficiently







## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Compaction Operations	15	50	-	-
<b>PC1.</b> plan and organize the job according to given instructions	1	3	-	-
<b>PC2.</b> examine the jobsite for loose soil, concealed deep ditches, or marshy spots where the backhoe might become trapped	1	3	-	-
<b>PC3.</b> perform all pre-operation and on-the-job inspections	1	3	-	-
PC4. ensure gear is in neutral position	1	3	-	-
PC5. wear seatbelt and adjust seat position	-	3	-	-
<b>PC6.</b> start the engine using the pushbutton switch and key switch	1	3	-	-
<b>PC7.</b> when starting the engine in cold weather, utilize the priming pump and pre-heater	1	3	-	-
<b>PC8.</b> operate tandem compactor in successive overlapping passes over surfaces to be compacted	1	3	-	-
<b>PC9.</b> determine the asphalt temperature at which compaction is optimal	1	3	-	-
<b>PC10.</b> ascertain that hot mix asphalt compaction is acceptable and in accordance with organization requirements	1	3	-	-
<b>PC11.</b> ensure that the subgrade and asphalt are properly compacted and smooth	1	3	-	-
PC12. determine the direction and speed of machine to ensure they are as per the compressibility of material under changing temperatures	1	3	-	-
<b>PC13.</b> ensuring that no ridges emerge as a result of high pressure	1	2	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> after completing operations, switch off ignition	-	3	-	-
<b>PC15.</b> inspect the gear position after usage to confirm that the gear is in neutral position	1	3	-	-
<b>PC16.</b> after using the equipment, leave it idle for few minutes	1	3	-	-
<b>PC17.</b> in the event of a crisis, use the emergency stop button to turn off all power to the compactor as instructed in the operator's handbook	1	3	-	-
NOS Total	15	50	-	-







# **National Occupational Standards (NOS) Parameters**

NOS Code	IES/N0117
NOS Name	Operate a Compactor
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022







# IES/N0118: Perform routine maintenance and troubleshooting of a compactor

## **Description**

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

## Scope

The scope covers the following:

- 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.** keep note of machine running hours to determine the best service plan
- **PC2.** regularly clean air filter dust bowls
- **PC3.** keep the footplates and steps clear of mud, grime, snow, dirt and oil
- **PC4.** everyday check the leaks and top up coolant, lubricants and fluids
- **PC5.** grease all greasing pins and pivot points everyday
- **PC6.** check battery levels and terminal condition, and tighten the loose terminals if necessary
- **PC7.** check and maintain the tyre rims, air pressure, wheel nuts and treads in accordance with the manufacturer's recommendations

#### Basic diagnostics and troubleshooting

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

- PC8. before performing any repair, be certain that the machine is on firm and level ground
- **PC9.** fill out daily/weekly maintenance sheets in a timely and consistent manner as directed by the organization
- **PC10.** make certain that no engine repair is conducted while the engine is running or hot
- **PC11.** diagnose the problem
- PC12. handle and dispose waste based on environmental guidelines at the work place
- **PC13.** adhere to the reporting procedures established by the employer

#### **Documentation and Reporting**

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

- **PC14.** complete all documentation in the prescribed standards in a timely manner
- PC15. report and escalate problems/incidents as needed in a timely manner
- **PC16.** if a fault is found that is outside of the scope of the position, notify the operator immediately







## **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. a list of typical occupational hazards and techniques for dealing with them
- **KU3.** safety policy of the company
- **KU4.** emergency procedures of the organization in the specific work site
- **KU5.** risk and impact of not following defined procedures/ work instructions
- **KU6.** the company's performance criteria and processes
- **KU7.** reporting structure in the company
- **KU8.** escalation matrix for reporting unresolved problems
- **KU9.** schedule for resolving the complaint/problem
- **KU10.** the consequences of process delays for the firm
- **KU11.** cost of equipment and loss for the company that result from damage of equipment and direct/ indirect cost of accidents
- **KU12.** work objective and review method with supervisor for obtaining/giving feedback on performance process
- KU13. location of tools
- **KU14.** if you have any questions about the procedure, please contact the administrator
- **KU15.** location and procedure for waste storage and disposal
- **KU16.** control and switches needed to operate the backhoe appropriately
- **KU17.** the fundamental physics and mechanics at work in the different operations of the compactor
- KU18. common defects and general causes of breakdown
- **KU19.** response to emergency situations
- **KU20.** the optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature
- **KU21.** potential causes of any unusual noises coming from the engine

#### **Generic Skills (GS)**

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

- **GS1.** keep a record of any deviations or occurrences that do not conform to the specified standards
- **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.** when talking with your supervisor, use the right technical words
- **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.** deliver first-class service to ensure client satisfaction
- **GS12.** report problems that you cannot resolve to appropriate authority
- GS13. learn when to seek the aid of a senior
- **GS14.** identify possible ways to improve operational efficiency
- **GS15.** check for damages and diagnose common problems in the backhoe loader and take relevant action
- **GS16.** examine, evaluate, and apply knowledge acquired from observation, experience, logic, or communication in order to act efficiently







## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Routine maintenance	3	21	-	-
<b>PC1.</b> keep note of machine running hours to determine the best service plan	-	3	-	-
PC2. regularly clean air filter dust bowls	-	3	-	-
<b>PC3.</b> keep the footplates and steps clear of mud, grime, snow, dirt and oil	-	3	-	-
<b>PC4.</b> everyday check the leaks and top up coolant, lubricants and fluids	1	3	-	-
<b>PC5.</b> grease all greasing pins and pivot points everyday	1	3	-	-
<b>PC6.</b> check battery levels and terminal condition, and tighten the loose terminals if necessary	-	3	-	-
<b>PC7.</b> check and maintain the tyre rims, air pressure, wheel nuts and treads in accordance with the manufacturer's recommendations	1	3	-	-
Basic diagnostics and troubleshooting	4	18	-	-
<b>PC8.</b> before performing any repair, be certain that the machine is on firm and level ground	1	3	-	-
<b>PC9.</b> fill out daily/weekly maintenance sheets in a timely and consistent manner as directed by the organization	1	3	-	-
<b>PC10.</b> make certain that no engine repair is conducted while the engine is running or hot	-	3	-	-
PC11. diagnose the problem	1	3	-	-
PC12. handle and dispose waste based on environmental guidelines at the work place	-	3	-	-
<b>PC13.</b> adhere to the reporting procedures established by the employer	1	3	-	-
Documentation and Reporting	3	6	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> complete all documentation in the prescribed standards in a timely manner	1	2	-	-
<b>PC15.</b> report and escalate problems/incidents as needed in a timely manner	1	2	-	-
<b>PC16.</b> if a fault is found that is outside of the scope of the position, notify the operator immediately	1	2	-	-
NOS Total	10	45	-	-







# **National Occupational Standards (NOS) Parameters**

NOS Code	IES/N0118
NOS Name	Perform routine maintenance and troubleshooting of a compactor
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	26/05/2022
Next Review Date	26/05/2025
NSQC Clearance Date	26/05/2022







## 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

The scope 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 as applicable to the equipment and the worksite
- **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 manufacturer's 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.** operate various grades of fire extinguishers, as applicable
- **PC7.** support in administering basic first aid and report to concerned team members, as required, in case of an accident
- **PC8.** respond promptly and appropriately to an accident/ incident or emergency, within limits of your role and responsibility
- **PC9.** record and report details related to operations, incidents or accidents, as applicable

### **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 and its importance
- **KU2.** personnel responsible for health, safety and environment (HSE) related matters and their contact details
- **KU3.** location of worksite storage, she team and safe assembly points
- **KU4.** reporting and documentation procedures for HSE and security matters
- **KU5.** manufacturers guidelines related to health and safety requirements







- **KU6.** common types of health, safety, environment and security risks related to the worksite and operations
- **KU7.** types, use and importance of personal protective equipment (PPE) and other safety gear
- **KU8.** safe working practices to avoid common hazards and risks
- **KU9.** guidelines for transport, storage and disposal of hazardous materials and waste
- **KU10.** types of common hazards and risks at the worksite including fire, electrical, gas emergencies, accidents, incidents, structure collapse, machine breakdown
- **KU11.** knowledge of safe lockdown/stop of machinery use in case of emergencies and incidents/ accidents
- **KU12.** types of fire extinguishers and their use
- **KU13.** common injuries and appropriate basic first aid treatment e.g. 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







## **Assessment Criteria**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Worksite health and safety	5	10	-	-
<b>PC1.</b> Comply with safety, health, security and environment related regulations/guidelines at the work site	0.5	1	-	-
<b>PC2.</b> use personal protective equipment (ppe) and other safety gear as applicable to the equipment and the worksite	0.5	1	-	-
<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	0.5	1	-	-
<b>PC4.</b> Carry out operations as per the manufacturer's and worksite related health and safety guidelines	0.5	1	-	-
<b>PC5.</b> Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines	1	1	-	-
<b>PC6.</b> operate various grades of fire extinguishers, as applicable	0.5	2	-	-
<b>PC7.</b> support in administering basic first aid and report to concerned team members, as required, in case of an accident	0.5	1	-	-
<b>PC8.</b> respond promptly and appropriately to an accident/ incident or emergency, within limits of your role and responsibility	0.5	1	-	-
<b>PC9.</b> record and report details related to operations, incidents or accidents, as applicable	0.5	1	-	-
NOS Total	5	10	-	-







## **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	2.0
Last Reviewed Date	26/05/2022
Next Review Date	31/05/2025
NSQC Clearance Date	26/05/2022

## Assessment Guidelines and Assessment Weightage

#### **Assessment Guidelines**

- 1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
- 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
- 3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
- 4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
- 5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
- 6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
- 7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.







Minimum Aggregate Passing % at QP Level: 70

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

# **Assessment Weightage**

## Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
IES/N0116.Carry out pre- operation checks on a compactor	15	50	0	0	65	35
IES/N0117.Operate a Compactor	15	50	0	0	65	35
IES/N0118.Perform routine maintenance and troubleshooting of a compactor	10	45	0	0	55	20
IES/N7601.Comply with worksite health and safety guidelines	5	10	0	0	15	10
Total	45	155	0	0	200	100







# **Acronyms**

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







# Glossary

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







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