

Qualification Pack



Transit and Self-Loading Mixer Operator

QP Code: IES/Q0118

Version: 3.0

NSQF Level: 4

Infrastructure Equipment Skill Council || Jubilee Building – 2nd Floor, No.45, Museum Road
Bengaluru - 560025



Qualification Pack

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IES/Q0118: Transit and Self-Loading Mixer Operator

Brief Job Description

Transit and Self -Loading Mixer operator drives and controls the mixer operations safely and as per schedule. He is responsible for loading the required quantity of aggregates, sand and cement as per the mix design into the drum and discharge the concrete to the desired location at the site after mixing the batched aggregates.

Personal Attributes

The job requires the individual to be extremely careful and diligent and have high level of concentration. Hard 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. [IES/N0152: Carryout Pre-operation checks on Transit and Self loading Mixer](#)
2. [IES/N0153: Operate Transit and Self Loading Mixer](#)
3. [IES/N0154: Perform routine maintenance and troubleshooting of Transit and Self-Loading Mixer](#)
4. [IES/N7601: Comply with worksite health and safety](#)
5. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
Country	India
NSQF Level	4
Credits	14
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8114.0300

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Minimum Educational Qualification & Experience	8th grade pass plus 2-year NTC plus 1 Year NAC OR 10th grade pass plus 1-year NTC/ NAC OR 10th grade pass with 2 Years of experience Relevant OR 10th grade pass and pursuing continuous schooling OR 11th grade pass
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	NA
Next Review Date	17/11/2025
NSQC Approval Date	17/11/2022
Version	3.0
Reference code on NQR	2022/CON/IESC/06811
NQR Version	3.0

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IES/N0152: Carryout Pre-operation checks on Transit and Self loading Mixer

Description

This unit provides insight into activities that need to be carried out to perform pre-check and prepare the transit and self-loading mixer for a shift

Scope

The scope covers the following :

- Pre-operation checks
- Reporting and documentation

Elements and Performance Criteria

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.** check if tyre inflation pressure corresponds to that prescribed norms of the manufacturer
- PC3.** ensure that wheel nuts are firmly tightened as per prescribed norms of the manufacturer
- PC4.** check oil levels of engine transmission, radiator coolant and brake
- PC5.** check hydraulic oil levels as per the prescribed norms of the manufacturer
- PC6.** check water system for leaks and clean water pump filter per the prescribed norms of the manufacturer
- PC7.** drain water and sediment from the fuel tank as per operational manual
- PC8.** ensure that the mixer drums are clean and free from concrete
- PC9.** ensure not to fill the fuel tank while engine is running
- PC10.** check battery electrolyte level as per the prescribed norms of the manufacturer
- PC11.** check electronic weighing system for any malfunctioning
- PC12.** apply grease to all grease nipples as per the prescribed norms of the manufacturer
- PC13.** ensure that the area is clear of all personnel and equipment before moving the equipment
- PC14.** ensure driver's seat, steps and handles are always clean and free from any foreign object or grease trials, oil mud and unfastened objects in the cabin
- PC15.** ensure proper condition of parking brake, main horn, reverse horn and head light
- PC16.** check all protection and safety for appropriate position for operation

Reporting and documentation

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

- PC17.** maintain a checking/maintenance logbook to record all activities performed before starting the machine
- PC18.** report defects precisely to the supervisor if beyond scope of the role

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Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organization's procedures and guidelines related to breakdown & maintenance services
- KU2.** the performance standards & procedures followed in the company
- KU3.** reporting structure in the company
- KU4.** timeframe in which the complaint/problem should be resolved
- KU5.** location of tools
- KU6.** contact person in case of queries on procedure or products
- KU7.** location and process for storage and disposal of waste material
- KU8.** safety policy of the company
- KU9.** different types of concrete mixer and their use and function
- KU10.** components of concrete mixer and its functioning-Mixing drum, loading bucket, discharge hopper, discharge chute, driving turret, hydraulic pumps, water system
- KU11.** introduction to engine transmission, their use and function
- KU12.** basic electrical functioning and repairs
- KU13.** different types of hydraulic mechanisms
- KU14.** steering mechanisms and correct way of steering on slopes
- KU15.** significance and methods of lubricating different parts of mixer
- KU16.** procedure of filling diesel and coolant in the machine
- KU17.** the various types of hand signals used on the site
- KU18.** instrument panel/cabin controls, their location and operation
- KU19.** controls, levers and switches in order to operate the mixer properly
- KU20.** optimal engine oil pressure, radiator coolant temperature
- KU21.** visual checks to identify damage, defects, cracks or leaks beforehand
- KU22.** response to emergencies e.g. correct way to use fire extinguisher

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 and regional language as applicable to read manuals of operations, guidelines, etc.
- GS3.** comprehend basic signs and symbols at the worksite
- GS4.** give clear instructions to co-workers, subordinates and other personnel
- GS5.** use correct technical terms while interacting with supervisor
- GS6.** decide when to conduct maintenance checks
- GS7.** work with supervisors/team mates to carry out work related tasks
- GS8.** plan work according to the required schedule and location
- GS9.** plan for cleaning and lubricating the activities every day



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- 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 the area of work
- GS14.** analyse, evaluate and apply the information gathered from observations, 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</i>	10	18	-	-
PC1. visually inspect the body components for cracks and bearing wear	1	2	-	-
PC2. check if tyre inflation pressure corresponds to that prescribed norms of the manufacturer	1	1	-	-
PC3. ensure that wheel nuts are firmly tightened as per prescribed norms of the manufacturer	1	1	-	-
PC4. check oil levels of engine transmission, radiator coolant and brake	1	1	-	-
PC5. check hydraulic oil levels as per the prescribed norms of the manufacturer	0.5	1	-	-
PC6. check water system for leaks and clean water pump filter per the prescribed norms of the manufacturer	1	1	-	-
PC7. drain water and sediment from the fuel tank as per operational manual	0.5	2	-	-
PC8. ensure that the mixer drums are clean and free from concrete	0.5	0.5	-	-
PC9. ensure not to fill the fuel tank while engine is running	0.5	0.5	-	-
PC10. check battery electrolyte level as per the prescribed norms of the manufacturer	0.5	1	-	-
PC11. check electronic weighing system for any malfunctioning	1	1	-	-
PC12. apply grease to all grease nipples as per the prescribed norms of the manufacturer	0.5	2	-	-
PC13. ensure that the area is clear of all personnel and equipment before moving the equipment	0.5	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. ensure driver's seat, steps and handles are always clean and free from any foreign object or grease trials, oil mud and unfastened objects in the cabin	0.5	1	-	-
PC15. ensure proper condition of parking brake, main horn, reverse horn and head light	-	1	-	-
PC16. check all protection and safety for appropriate position for operation	-	1	-	-
<i>Reporting and documentation</i>	-	2	-	-
PC17. maintain a checking/maintenance logbook to record all activities performed before starting the machine	-	1	-	-
PC18. report defects precisely to the supervisor if beyond scope of the role	-	1	-	-
NOS Total	10	20	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0152
NOS Name	Carryout Pre-operation checks on Transit and Self loading Mixer
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQF Clearance Date	17/11/2022

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IES/N0153: Operate Transit and Self Loading Mixer

Description

This unit provides insight into activities that are required for operating a transit mixer.

Scope

The scope covers the following :

- Mixer operations
- Shutdown procedures
- Reporting and documentation

Elements and Performance Criteria

Mixer operations

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

- PC1.** plan and organize the job according to instructions from the supervisor
- PC2.** inspect the worksite to identify and loose soil hidden deep trenches or marshy patches where a mixer could get stuck
- PC3.** fill water tanks ready for daily use as per organizational standards
- PC4.** carry out all peruse and running checks as per organizational standards
- PC5.** wear seat belt and adjust seat position to one's comfort
- PC6.** start the engine using the starting key
- PC7.** ensure parking brake is engaged and electric gear selector is in neutral position before starting the engine
- PC8.** select appropriate type of steering mechanism as per the situational requirements
- PC9.** load correct proportions of aggregates, cement, water and admixtures as per the production requirements
- PC10.** ensure mixer load and operating speed is within specified limits as per the manufacturer's
- PC11.** adjust the direction of drum rotation for mixing as per the requirement
- PC12.** adjust the concrete chute to the discharge position
- PC13.** discharge concrete to the desired location at the site
- PC14.** use the emergency stop button to disable all power to the transit mixer in case of a crisis as per operational manual

procedures

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

- PC15.** turn off ignition after finishing operations as per the instructions given in the instructional manual
- PC16.** ensure gear is in neutral position post usage
- PC17.** ensure bucket drum and concrete-skid are cleaned as per the manufacturer's instructional manual
- PC18.** remove attachments after use

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PC19. ensure that the machine is secured when left unattended

Reporting and documentation

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

PC20. maintain a production logbook to record all activities performed

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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the organization's procedures and guidelines related to breakdown & maintenance services

KU2. the performance standards & procedures followed in the company

KU3. reporting structure in the company

KU4. timeframe in which the complaint/problem should be resolved

KU5. location of tools

KU6. contact person in case of queries on procedure or products

KU7. location and process for storage and disposal of waste material

KU8. safety policy of the company

KU9. various type and grade of materials- cement, aggregates, sand, admixture etc.

KU10. types of lubricants

KU11. different types of concrete mixer, their use and function

KU12. machine capacities and features such as speed rate, braking, steering, stability and load

KU13. components of concrete mixer and its functioning-Mixing drum, loading bucket, discharge hopper, discharge chute, driving turret, hydraulic pumps, water system

KU14. introduction to engine transmission, their use and function

KU15. basic electrical functioning and repairs

KU16. different types of hydraulic mechanisms

KU17. steering mechanisms and correct way of steering on slopes

KU18. significance and methods of lubricating different parts of mixer

KU19. procedure of filling diesel, coolant in the machine

KU20. the various types of hand signals used on the site and road

KU21. instrument panel/cabin controls, their location and operation

KU22. controls, levers and switches in order to operate the mixer properly

KU23. optimal engine oil pressure, radiator coolant temperature

KU24. visual checks to identify damage, defects, cracks or leaks beforehand

KU25. correct way to use fire extinguisher

Generic Skills (GS)

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

GS1. record any deviations/ incidents as per prescribed norms

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- GS2.** read and comprehend basic English and regional language as applicable to read manuals of operations, guidelines, etc.
- GS3.** interpret stakes and signages on the road and during worksite operations
- GS4.** give clear instructions to co-workers, subordinates and other personnel
- GS5.** use correct technical terms while interacting with supervisor
- GS6.** assess for any damage/faulty component in the transit and self-loading mixer and act accordingly
- GS7.** decide when to perform appropriate driving operations i.e forward, reverse, 'u' turn, tight spot
- GS8.** work with supervisors/ team mates to carry out work related tasks
- GS9.** plan work according to the required schedule and location
- 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 possible ways to improve operational efficiency
- GS14.** suggest methods to avoid accidents/errors while operating machine
- GS15.** 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>Mixer operations</i>	8.5	16.5	-	-
PC1. plan and organize the job according to instructions from the supervisor	1	1	-	-
PC2. inspect the worksite to identify and loose soil hidden deep trenches or marshy patches where a mixer could get stuck	1	0.5	-	-
PC3. fill water tanks ready for daily use as per organizational standards	0.5	0.5	-	-
PC4. carry out all peruse and running checks as per organizational standards	1	1	-	-
PC5. wear seat belt and adjust seat position to one's comfort	0.5	0.5	-	-
PC6. start the engine using the starting key	-	0.5	-	-
PC7. ensure parking brake is engaged and electric gear selector is in neutral position before starting the engine	0.5	0.5	-	-
PC8. select appropriate type of steering mechanism as per the situational requirements	0.5	1	-	-
PC9. load correct proportions of aggregates, cement, water and admixtures as per the production requirements	1	2	-	-
PC10. ensure mixer load and operating speed is within specified limits as per the manufacturer's	1	2	-	-
PC11. adjust the direction of drum rotation for mixing as per the requirement	0.5	2	-	-
PC12. adjust the concrete chute to the discharge position	-	2	-	-
PC13. discharge concrete to the desired location at the site	-	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. use the emergency stop button to disable all power to the transit mixer in case of a crisis as per operational manual	1	1	-	-
<i>procedures</i>	2.5	4.5	-	-
PC15. turn off ignition after finishing operations as per the instructions given in the instructional manual	0.5	0.5	-	-
PC16. ensure gear is in neutral position post usage	0.5	0.5	-	-
PC17. ensure bucket drum and concrete-skid are cleaned as per the manufacturer's instructional manual	0.5	2	-	-
PC18. remove attachments after use	0.5	0.5	-	-
PC19. ensure that the machine is secured when left unattended	0.5	1	-	-
<i>Reporting and documentation</i>	1	2	-	-
PC20. maintain a production logbook to record all activities performed	0.5	1	-	-
PC21. report defects precisely to the supervisor if beyond scope of the role	0.5	1	-	-
NOS Total	12	23	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0153
NOS Name	Operate Transit and Self Loading Mixer
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQF Clearance Date	17/11/2022

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IES/N0154: Perform routine maintenance and troubleshooting of Transit and Self-Loading Mixer

Description

This unit provides insight into activities that are required for performing routine maintenance and troubleshooting on the transit mixer

Scope

The scope 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.** read and observe all plates and instructions concerning safety that are attached onto the vehicle
- PC3.** clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals
- PC4.** check and maintain the tire rims, air pressure, wheel nuts and treads as per manufacturer's indicators
- PC5.** replenish coolants, lubricants and fluids everyday as per instructions from the manufacturer from the manufacturer
- PC6.** grease all greasing pins and pivot points everyday as per instructions from the manufacturer
- PC7.** clean and adjust windows mirrors, lights and reflectors daily as per the requirement
- PC8.** check battery levels and condition of the terminals
- PC9.** adjust alternator belt tension and feed pump while engine is off
- PC10.** keep the tools in the appropriate place after use

Basic diagnostics and troubleshooting

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

- PC11.** 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
- PC12.** turn off the main power from panel completely before carrying out maintenance work
- PC13.** ensure that bucket arm is lowered before any maintenance operations
- PC14.** lubricate fifth wheel and pinion with grease or equivalent lubrication using a hard bristle brush
- PC15.** complete timely and legibly daily/weekly maintenance sheets as provided by the company
- PC16.** ensure that no maintenance task on the engine is performed when running or still hot
- PC17.** use appropriate tools are used while troubleshooting

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PC18. diagnose the problem

PC19. handle and dispose waste based on environmental guidelines at the work place

Reporting and documentation

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

PC20. follow reporting procedures as laid down by the employer

PC21 . complete all documentation in the prescribed standards in a timely manner

PC22. 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. common hazards in the work area and workplace procedures to deal with them

KU2. safety policy of the company

KU3. emergency organization of the specific work site

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. timeframe in which the complaint/problem should be resolved

KU8. implications of delays in process to the company

KU9. cost of equipment and loss for the company that result from damage of equipment

KU10. location of tools

KU11. contact person in case of queries on procedure or products

KU12. location and process for storage and disposal of waste material

KU13. responsibilities of the assigned job role

KU14. control and switches needed to operate the transit mixer and self-loading mixer appropriately

KU15. basic physics and mechanics involved in various functions of the transit and self-loading mixer

KU16. common defects and general causes of breakdown

KU17. response to emergency situations

KU18. the optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature

KU19. possible sources of any unusual sound emanating from the engine

KU20. job specific documents e.g. daily maintenance checklist and importance of the same.

Generic Skills (GS)

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

GS1. record any deviations/incidents as per prescribed norms

GS2. read basic English and regional language as applicable to understand manuals of operations, guidelines, etc.

GS3. give clear instructions to co-workers, subordinates and other personnel

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- GS4.** use correct technical terms while interacting with supervisor
- GS5.** decide when to conduct maintenance checks
- GS6.** evaluate the decision to conduct basic trouble shooting
- 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 regular maintenance on a daily basis before machine operations
- 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 possible ways to improve operational efficiency
- GS14.** check for damages and diagnose common problems in the mixer and take relevant actions
- GS15.** 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>	3.5	6.5	-	-
PC1. assess the right service schedule by tracking machine operating hours	0.5	0.5	-	-
PC2. read and observe all plates and instructions concerning safety that are attached onto the vehicle	0.5	0.5	-	-
PC3. clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals	-	0.5	-	-
PC4. check and maintain the tire rims, air pressure, wheel nuts and treads as per manufacturer's indicators	0.5	0.5	-	-
PC5. replenish coolants, lubricants and fluids everyday as per instructions from the manufacturer	0.5	1	-	-
PC6. grease all greasing pins and pivot points everyday as per instructions from the manufacturer	0.5	0.5	-	-
PC7. clean and adjust windows mirrors, lights and reflectors daily as per the requirement	-	0.5	-	-
PC8. check battery levels and condition of the terminals	0.5	0.5	-	-
PC9. adjust alternator belt tension and feed pump while engine is off	-	1	-	-
PC10. keep the tools in the appropriate place after use	0.5	1	-	-
<i>Basic diagnostics and troubleshooting</i>	3.5	5	-	-
PC11. 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	0.5	0.5	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. turn off the main power from panel completely before carrying out maintenance work	0.5	0.5	-	-
PC13. ensure that bucket arm is lowered before any maintenance operations	0.5	0.5	-	-
PC14. lubricate fifth wheel and pinion with grease or equivalent lubrication using a hard bristle brush	0.5	0.5	-	-
PC15. complete timely and legibly daily/weekly maintenance sheets as provided by the company	-	0.5	-	-
PC16. ensure that no maintenance task on the engine is performed when running or still hot	0.5	0.5	-	-
PC17. use appropriate tools are used while troubleshooting	0.5	0.5	-	-
PC18. diagnose the problem	-	0.5	-	-
PC19. handle and dispose waste based on environmental guidelines at the work place	0.5	1	-	-
<i>Reporting and documentation</i>	-	1.5	-	-
PC20. follow reporting procedures as laid down by the employer	-	0.5	-	-
PC21 . complete all documentation in the prescribed standards in a timely manner	-	0.5	-	-
PC22. report defects precisely to the supervisor if beyond scope of his role	-	0.5	-	-
NOS Total	7	13	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0154
NOS Name	Perform routine maintenance and troubleshooting of Transit and Self-Loading Mixer
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	4
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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IES/N7601: Comply with worksite health and safety

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

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- 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

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Assessment Criteria

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

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	IES/N7601
NOS Name	Comply with worksite health and safety
Sector	Infrastructure Equipment
Sub-Sector	Equipment Operations
Occupation	Operator
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQF Clearance Date	17/11/2022

Qualification Pack

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values - Citizenship

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

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

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

PC4. speak with others using some basic English phrases or sentences

Communication Skills

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

PC5. follow good manners while communicating with others

PC6. work with others in a team

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Diversity & Inclusion

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

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

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

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

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

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

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

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

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

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

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- KU10.** how to compute income and expenses
- KU11.** importance of maintaining safety and security in financial transactions
- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation to avoid infection

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	20	30	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	25/08/2025
NSQC Clearance Date	25/08/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

Criteria for assessment for Qualification Pack have been laid down based on the NOS's.

Each Performance Criteria (PC) has been assigned marks proportional to its importance within NOS and weightages have also been given among the NOSs accordingly.

The assessment of the theory/knowledge will be based on written test/viva or both while skill test shall be hands on practical.

Behavior and attitude will be assessed while performing the assigned task.

The assessment shall be done as per the guidelines formulated by IESC.

The assessment agencies in consultation with IESC will create unique question papers for theory/knowledge and practical skills at each IESC accredited testing centers (as per assessment criteria below)

To pass the Qualification Pack, every trainee should score a minimum of 70%

In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent

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assessment on the balance NOS's to pass 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/N0152.Carryout Pre-operation checks on Transit and Self loading Mixer	10	20	-	-	30	20
IES/N0153.Operate Transit and Self Loading Mixer	12	23	-	-	35	30
IES/N0154.Perform routine maintenance and troubleshooting of Transit and Self-Loading Mixer	7	13	-	-	20	20
IES/N7601.Comply with worksite health and safety	5	10	-	-	15	15
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	15
Total	54	96	-	-	150	100



Qualification Pack

Acronyms

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

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Glossary

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

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